1995

Review of Swan Valley land use planning

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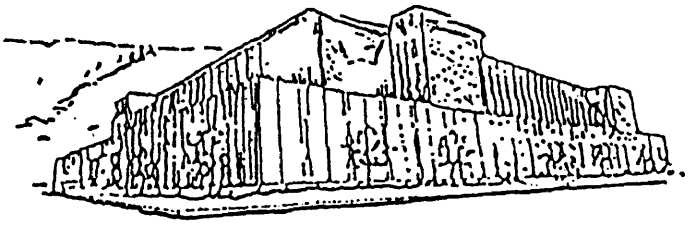

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A REVIEW OF SWAN VALLEY LAND USE PLANNING

By

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B.S. West Virginia University, 1979

Presented in partial fulfillment of the requirements

for the degree of

Master of Science

UNIVERSITY OF MONTANA

1995

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October 11, 1995
Date

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Brent Morrow, M.S., September 1995 Rural, Town, and Regional Planning

A Review of Swan Valley Land Use Planning (106pp.)

Director: Darshan Kang

The Swan Valley of northwest Montana is a region noted for tremendous scenic beauty, a great variety of flora and fauna, and a unique rural lifestyle. Planning considerations have become multifaceted and somewhat complex due to the various types of landowners and their individual interests in land use.

The structure of Swan Valley land management can be classified primarily into five different categories of ownership which include US Forest Service, Plum Creek Timber Company, Montana Department of State Lands (DSL), and Private. The US Forest Service controls the most land (63%), followed by Plum Creek Timber Company (18%), DSL (10%), and Private lands (9%). The US Forest Service is interested in managing it's lands for multiple use (timber, wildlife, fisheries, recreation, etc. Plum Creek Timber Company's interest is in logging timber from their lands to supply company owned mills and to sell the excess. The DSL is interested in removing timber from state owned lands to generate money for the Montana School Trust Fund. Private lands have become popular for primary and recreational homesite development.

Land use planning is evolving toward an ecosystem management style which will require the continued cooperation of all landowners. Conservation easements, land exchanges, and cooperative projects are a few of the ways this evolution is taking place. Sensitive riparian-wetland areas, grizzly bear travel corridors, and homesite development in wildfire prone locations, will continue the need for new zoning regulations and the preservation of critical wildlife habitat. The development of a classification system for private land use could aid in determining future zoning regulations and open space acquisition.

The citizens of the Swan Valley should realize that land use regulations and critical open space preservation in the future will allow them to continue to use and develop the land, but in a way that will protect biodiversity and maintain the unique characteristics of the area for future generations to enjoy.

ACKNOWLEDGEMENTS

I would like to thank my graduate committee, Darshan Kang, Paul Wilson, and Paul Miller for their time and contributions.

I also would like to thank Zoe Mohesky, Missoula County rural planner, for her time and efforts in helping me gather information.

In addition, I would like to dedicate this Professional paper in honor of the memory of my grandfather, Wilbur Hart, who encouraged me to come to Montana and experience the beauty, serenity, and wild character of the Swan Valley of northwest Montana.

A special thanks goes to my parents, Hile and Shirley Hart Morrow, for giving loving support throughout my studies.

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CHAPTER 1

INTRODUCTION

The Swan Valley is located in northwestern Montana, and is bordered on the east by the Bob Marshall Wilderness and on the west by the Mission Mountains Wilderness. The study area for this review and recommendations plan is defined as that portion of the Swan Valley that drains Missoula and Lake Counties. A map of the Swan Drainage is provided in Figure 1. Approximately 440,000 acres of land under various ownerships make up the study area. A US Forest Service Flathead National Forest (FNF) map with the study area clearly defined is enclosed inside the back cover of this document, and should be referred to for clarification of locations and land ownership. Land color coded in orange in the northern part of the study area that is listed as Champion International Land has been acquired by Plum Creek Timber Company.[1] There have been some minor changes in land ownership since the map was produced, but major changes between the FNF and Plum Creek Timber Company are being negotiated, and will be discussed in detail in Chapter 7.

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[1]Frank Netherton, Superintendent of Plum Creek Timber Company (Clearwater Planning Unit), Interview by author, March 16, 1995, Seeley Lake, Mt.

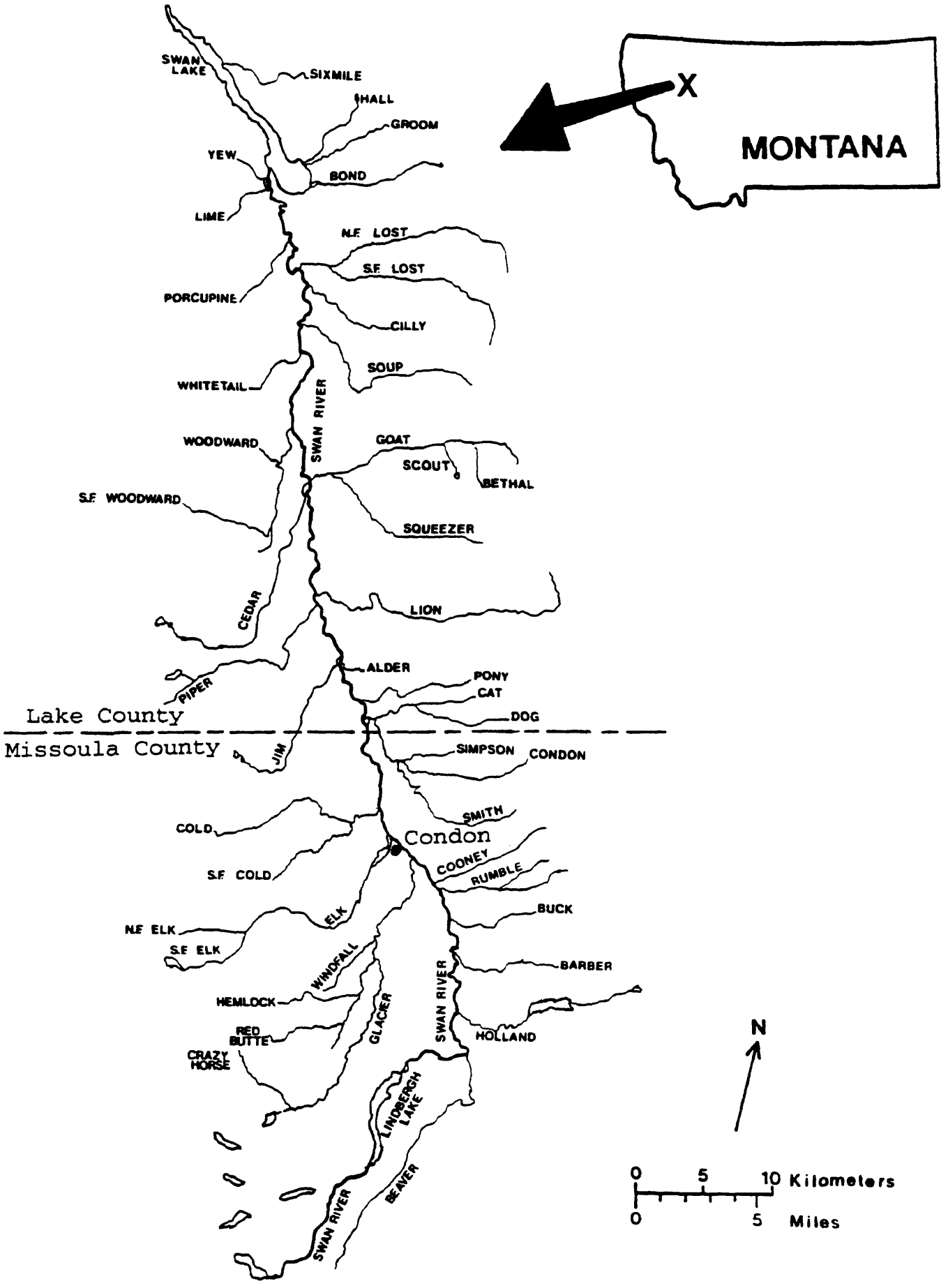

Figure 1. Map of the Swan River drainage, Montana.

The area is relatively isolated, as the only paved road entry and exit to the valley is Highway 83 which traverses the length of the valley, from the south entering the valley at the Clearwater divide north of Seeley Lake, to the north near Bigfork. There are no incorporated communities found within the study area. Condon which is situated approximately half way between Kalispell and Missoula provides a quick location reference for the valley.

The Swan River begins high in the Mission Mountains as snowmelt and flows north approximately 80 miles, emptying into Flathead Lake at Bigfork. Elevations range from almost 3,000 feet near Bigfork to 9,356 feet Holland Peak, the highest in the Swan Range. The Mission and Swan Range of mountains on the west and east side of the valley respectively, are fault block mountains that have been weathered by glacial activity.[2]

The Swan Valley is an area that offers a classic challenge in rural planning because of a great diversity in land management practices. The interests of Plum Creek Timber Company, the US Forest Service, the Montana Department of State Lands, and private landowners must be considered to effectively recommend land use planning strategies. All landowners must realize that to protect the biodiversity of the area, they must collectively manage

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[2]Interdisciplinary Research Team, Wildlife Landscape Evaluation: Swan Valley, Kalispell, Montana, May 31, 1994, pp IV-1 - IV-3.

critical habitat, if sufficient wildlife habitat is to be preserved.

> **To truly reach an accord in land management practices, a land ethic should be developed which changes the role of Homo sapiens from conqueror of the land-community to plain member status, that implies respect for his fellow members, and also respect for his community.[3]**

The area has been richly endowed with a tremendous variety of wildlife resources, scenic beauty, abundant clean water and air, and a rural quality of life sought after by many people. The valley provides wildlife habitat for the threatened grizzly bear and gray wolf, as well as the endangered bald eagle.[4] The Swan river is a good fishery and contains cutthroat, brook, and rainbow trout; and the bull trout (dolly varden) which soon may be placed on the threatened list.[5] Howell's gumweed, a plant found in moist meadows and Howellia found at the margins of shallow ponds and potholes, are two plant species found in the Swan Valley that have been recommended for endangered status.[6] The Swan

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[3]Aldo Leopold, "The Land Ethic," 4th Annual John Wesley Powell Lecture Proceedings, Las Cruces, New Mexico, May 1, 1933.

[4]Missoula County Rural Planning Office, Inventory of Conservation Resources For Missoula County, Montana, (Missoula, Mt.: Missoula County, October 1992), pp 30-32.

[5]Ibid.

[6]Ibid.

Valley, like many other river valleys in this region, provides important fringe and connecting habitat for the Bob Marshall Wilderness Complex and more distant Waterton-Glacier International Peace Park. To make effective recommendations for land use in the valley, an understanding should be had of land use practices surrounding the valley.

Review of Land Use Surrounding the Swan Valley

To the north of the Swan Valley lies the Flathead Valley. The land use in this region is dominated by agriculture, forestry, and homesite development in the Bigfork and Kalispell areas.[7] The primary ownership of the Flathead Valley consists of private lands, with US Forest Service Lands dominating in the foothills and surrounding mountains. Small farms and ranchettes are common throughout the central part of the valley, with newer homesite development more common along lakes, potholes, and in timbered areas adjacent to the mountains and foothills.

The west boundary of the Swan Valley is adjacent to Forest Service lands and the Flathead Indian Reservation.

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[7]The Flathead Valley has a rich layer of top soil that supports the growing of wheat, certified seed potatoes, and on smaller parcels, mint fields. Christmas tree farms are common in the Bigfork area, along with land being developed for homesites. Many lakes are located in the valley which are popular for recreational use and development of homesites. The Bigfork community located on the north shore of Flathead Lake has become a popular resort community offering shopping, lodging, and entertainment.

Flathead Lake is located, on an average, just a few miles west of the northwest boundary of the study area, but is not readily accessible because a road has not been built over the mountains in this area. The Flathead Indian Reservation lands immediately bordering the study area are managed for timber production and wilderness, and the adjacent Mission Valley to the west is made up of small farms and homesite development throughout the valley and in the adjacent foothills.[8] The Mission Mountains Wilderness and adjacent Mission Mountains Tribal Wilderness provide outstanding opportunities for hunting, fishing, hiking, and nature-study excursions.

The east boundary of the Swan Valley is bordered by Forest Service Land.[9] This area being primarily wilderness or proposed for that designation, provides outstanding opportunities for hunting, fishing, backpacking, and backcountry horse use. Trails provide the primary access to enter or exit the valley in this area of the Swan Valley, as no roads have been built across the Swan Range, which separates the Swan Drainage from the South Fork of the

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[8]The Mission Valley is also noted for outstanding scenery, particularly views up into the Mission Mountains from the valley and along Flathead Lake.

[9]The adjacent Forest Service lands to the northeast of the study area boundary are managed for timber production and recreation (the South Fork of the Flathead River drains this area and flows into Hungry Horse Reservoir). To the southeast, the study area borders the largest wilderness complex (Bob Marshall, Scapegoat, Great Bear, and Sun River Game Preserve) in the lower 48 states.

Flathead Drainage.

The southern boundary of the study area is bordered by the Lolo National Forest. Timber production in this area has been quite high as evidenced by numerous clear cuts. This area is drained by the Clearwater River and contains large areas of Plum Creek Timber Company Lands. A chain of lakes in the Clearwater River Drainage adjacent to highway 83 provide homesites and seasonal recreational opportunities. The unincorporated town of Seeley Lake is located about 12 miles south of the study area boundary.

Problem Statement

The Swan Valley faces a continuing threat to the tremendous wildlife and fishery resource and rural lifestyle it supports. The popularity of the valley as a recreation site and place to live, puts pressure on the rural lifestyle that is found here. The continued extraction of timber is a controversial practice that is both condemned and supported by valley residents and nonresidents. Finding common ground on issues is an on going problem in the valley that seems to be improving as different viewpoints come together.[10] To preserve the quality of the natural environment and rural lifestyles, land use management planning must be implemented

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[10]Local residents have come together to form conservation groups and an ad hoc committee to help lessen polarization on the issues. The US Forest Service has also been active in holding public meetings.

in a more cohesive way that cuts across ownership boundaries.[11] Also, surrounding wilderness areas cannot exist as islands, and depend on valleys like the Swan to provide buffer zones that are supportive of ecosystem biodiversity. The situation is improving, as the large land owners have begun to get together to discuss ways to preserve wildlife habitat.

Purpose

The main purpose of this research will be to review land use in the Swan Valley and recommend land use options that support the natural aesthetic qualities of the area and minimize impacts to the ecosystem. This type of review and recommendations compilation could serve the purpose of mediation between conflicting land use interests. This study will show the importance of bringing together university research, conservation groups, forest user groups, public agency managers, and interested rural community members to chart the course on ecosystem management in the Swan Valley.[12]

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[11]US Forest Service land dominates the land ownership in the Swan Valley. Ecosystem management principles and strategies are being developed by the Forest Service to help preserve the natural environment in the Swan Valley, but still allow for multiple resource management.

[12]For the immediate future the Forest Service will be involved in developing plans for action based on these concepts to carry out ecosystem management.

Justification

A sense of urgency prevails in the Swan Valley to bring together parties with conflicting interests and to develop more cohesive land management strategies. Rural comprehensive plans should be updated and reviewed at least every five years and include a review of the major elements.[13] Major elements in need of review are wildlife habitat evaluation, rural community social structure and land use, potential change in land management, wildland fire protection considerations, and riparian-wetland management planning. A review and recommendation plan like this could serve as a model for other rural river valleys having similar problems.[14]

Objectives

The objectives of this research are to:

1. Review and describe the land use activities in the Missoula County and Lake County portion of the Swan Valley
2. Develop a classification scheme to describe private land use

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[13]In the case of Swan Valley planning, the last major planning effort was undertaken in the Missoula County portion in 1987, and in the Lake County portion in 1988.

[14]In northwest Montana, river valleys such as the North Fork of the Flathead, Middle Fork of the Flathead, and the Stillwater, have characteristics similar to the Swan Valley, and would benefit from this type of planning document.

3. Recommend ways to carry out land use so the aesthetic values in the area can be preserved, but look at the realistic aspects of future land development
4. Describe ways the various land owners are working together to maintain aesthetic values of the land
5. Describe land use planning as it relates to riparian-wetland and wildfire prone areas
6. Discuss the concept of ecosystem management to formulate common planning goals among all landowners.

Methodology

The methodology for carrying out this research involved:

1. Reviewing land use maps of the study area produced by the various landowners
2. Reviewing existing information on land use planning
3. To supplement available research, landowners and land managers were interviewed informally to discover land use issues
4. Reconnaissance surveys of the area to record land management activities involved field investigations and the examination of existing maps to record a general description of land located in and adjacent to the study area.

CHAPTER 2

PHYSICAL ENVIRONMENT

Located in the northern Rocky Mountains of northwest Montana, the Swan Valley is approximately 9 miles wide near the Clearwater Divide to the south, narrowing to only about a mile in width along Swan Lake in the northern part of the valley. The valley provides breathtaking scenery because of the abrupt rise of the Mission Range to the west and the Swan Range to the east.[1] The area contains numerous lakes, potholes, and wetland areas at all elevations. Glaciation was responsible for forming these lakes. The largest lake in the study area is Swan Lake, which is roughly 10 miles long and varies from one-half to one mile wide and is approximately 3,280 acres in size.[2] Swan Lake is located at the north end of the study area. The remainder of the lakes range in size from small shallow potholes that in some years dry up, to larger bodies of water hundreds of acres in size. Many of the larger lakes are located in the Mission

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[1]This is a particular characteristic of the southern half of the valley, where elevation changes of over 5,000 feet occur within 6 to 8 miles.

[2]Lake County Board of Commissioners. Lake County General Plan. Polson, Mt.: (Lake County, June 1, 1988), 39.

Mountains in the southwestern corner of the study area.

The Swan Valley is heavily forested, and viewed from higher elevations appears to be an area of continual forest, occasionally broken by natural clearings, homesite development, clearcuts of various ages, and bodies of water. There are a great variety of vegetation types and patterns that are influenced by climatic conditions which change abruptly due to elevation and aspect.

Climate

The climate of the Swan Valley can generally be classified as Inland Maritime.[3] Weather patterns in this classification are tremendously modified by local terrain.[4] Major weather patterns commonly moving along the Canadian border from western Washington to northwestern Montana, bring relatively large amounts of precipitation to the study area.[5] At lower elevations the average annual temperature is approximately 40^0 F and average precipitation is

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[3]Interdisciplinary Research Team, IV-2.

[4]The Swan and Mission ranges on each side of the Swan Valley modify weather patterns, which results in localized weather that is difficult to predict. The Swan Range on the east side of the valley often shields the area from severe cold fronts coming down from the north in the winter. Both mountain ranges seem to aid in stalling weather fronts over the valley, which results in fairly heavy precipitation for the area.

[5]Interdisciplinary Research Team, IV-2.

approximately 28 inches.[6] The higher elevations average 10-20^0 F cooler and average annual precipitation in the higher mountain areas range from 100-140 inches.[7] During the summer months daytime temperatures range from the 80's at low elevations to the 60's in the alpine zone. Killing frost can occur at any elevation even in the summer months. During the winter months daytime temperatures are usually in the 20's at lower elevations, dropping into the teens or single digits at night. Snow is possible in the alpine zone all 12 months of the year. Periods of high precipitation occur from late October to mid-February and again from mid-May to early July.[8] Snowfall accounts for about 65 percent of the precipitation and ranges from 100-800 inches a year.[9]

Geology

The dominate type of rock in the area is slightly metamorphosed Precambrian (over 600 million years old) sedimentary rocks of the Belt Supergroup, consisting of argillite, quartzite, and impure limestone.[10] No major

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[6]Ibid.

[7]Ibid.

[8]Ibid.

[9]Flathead National Forest. Forest Plan. Kalispell, Mt.: (USDA, Flathead National Forest, 1985), IV-5.

[10]Montana Dept. of Natural Resources and Conservation (DNRC) Swan River State Forest: Final EIS. Helena, Mt.: (DNRC, July 1978), 17.

mineral deposits are known to occur in the Swan Valley, however, minor commercially valuable deposits of calcite, sand, gravel, and peat have been located and extracted.[11]

The Swan Valley is made up glacial deposits due to the weathering impacts of glaciers and the down slope movement of eroded parent materials.[12] Throughout the higher elevations of the drainage cirques, hanging valleys, and steep rock faces were created by glaciers during the last ice age.[13] The surface geology consists mainly of glacial till and glacial-fluvial sediments that cover most of the valley floor and the steeper side-slopes.[14]

The Swan River begins high in the Mission Mountains as a rock and boulder strewn white water stream and flows north, fed by tributaries supported by snowfields and remnant glaciers. The river cuts its way down from the mountains and empties into and out of a series of lakes in the southern part of the valley. After flowing out of Lindberg Lake the Swan River meanders across a broad glacial floodplain for most of its course before emptying into Swan Lake. Throughout this section of the valley, the river often changes course from year to year, as it cuts across an unstable bed of sand, gravel, and rock. After exiting Swan

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[11]Ibid.

[12]Ibid.

[13]Ibid.

[14]Ibid.

Lake the river becomes more stable before flowing out of the study area and into Flathead County.

Landforms

Swan Valley landform types can be designated by ten different classes (Table 1). These landform types are of glacial and fluvial origin, and are the result of glaciation that occurred in ice ages of recent geologic history. Remnant glaciers still exist in the Swan Peak area of the Swan Range and in the Turquoise Lake drainage of the southern Mission Mountains.

Table 1. Swan Valley landform types and percent of land area occupied by each

LANDFORM CLASSES	PERCENT OF AREA
Moraines	33.4
Cirque Headwalls and Alpine Ridges	15.8
Glacial Trough Walls	11.3
Structural Breaklands	7.9
Cirque Basins	7.7
Glaciated Mountain Ridges	7.2
Glaciated Mountain Slopes	6.0
Stream Bottoms	4.9
Terraces	4.0
Water	1.8
Total	100%

Source: Interdisciplinary Research Team, Wildlife Landscape Evaluation: Swan Valley, (Kalispell: Flathead National Forest, 1994) IV-3.

Soils

Soils having different physical and chemical characteristics occur on the different landform types. Soils in the valley bottoms and at lower elevations tend to be much thicker and have a higher organic matter content due the build up of forest litter, which is the primary parent material. Generally soils decrease in thickness with elevation and are in the early stages of development at elevations above 7000 Feet, with talus slopes, boulder fields, snow fields, and sheer rock cliffs being commonly found.

The majority of soils in the Swan Valley have the following characteristics:[15]

1. Medium soil textures, either silt or loam, with loamy textured soils occurring in a soil matrix that includes 20 to 60 percent rock fragments that are either gravels, stones, or boulders
2. Coarse textured fluvial soils occur as sandy loams, few sites have sufficient clay to produce clay loam textures
3. Acidic surface layers due to relatively high precipitation and the acidification effect of coniferous forest litter
4. Moderate to high levels of essential plant nutrients
5. A 6-12 inch thick layer of volcanic ash layer immediately below the organic layer due to volcanic eruptions of the

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[15]Interdisciplinary Research Team, IV-4.

past.

Vegetation

The composition and structure of vegetation in the Swan Valley can be described in terms of site capability and the influence of ecosystem processes. A great variety of landform types and climactic conditions have combined to provide habitat for a fairly large number of unique or rare plant species. The cool climate provides for a short growing season. Patterns of vegetation have developed and continue to be influenced by fire ecology, elevation changes, soil conditions, climate, and the impacts of humans on the environment. A variety of successional stages of vegetation can be found in the Swan Valley (Table 2). The impact of humans on the vegetation in this area has been most pronounced in the form of timber cutting and preventing natural fires that would have taken place in the absence of suppression.[16] Early explorations of the area in the late 1890's indicate that natural fires have also played a significant role in the succession of forest communities.[17] Research completed on forest stand structure indicates that

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[16]Throughout the Swan Valley large clear cuts can be viewed from almost any area. Due to the checkerboard fashion of land ownership these clearcuts are often very noticeable, as timber has been removed to correspond to section line boundaries separating adjacent landowners.

[17]H.B. Ayers, Lewis and Clark Forest Reserves Exploration. Montana: 21st Annual Report USGS, 1899-1900, Part V.

the natural stand replacement fire-cycle without modern fire suppression efforts has been approximately 100-170 years[18]

Table 2. Percentage of Swan Valley land occupied by various successional stages

VEGETATION OR LAND TYPE	PERCENT OF AREA
Mature Timber	31%
Old Growth Timber	29%
Sapling/Pole Size Timber	21%
Recently Burned (not reforested)	8%
Bare Soil, Rocks, and Snow	8%
Meadows/Hay or Natural	5%
Total	100%

Source: Interdisciplinary Research Team, 1994, IV-9.

The Swan Valley lies at the border of the maritime and continental climates and because of this has a mixture of Pacific Coastal Forest trees.[19] Historically the Pacific Coastal Forest habitat type once extended over most of western Montana, but has retreated to areas like the Swan Valley that have maintained a relatively cool and moist climate.[20] Species that make up this habitat type include

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[18]S.F. Arno, "Forest Fire History in the Northern Rockies," Journal of Forestry (1980): Vol. 78 (8), 460-465.

[19]Missoula County Rural Planning Dept., 31

[20]Ibid.

western red cedar (Thuja plicata), grand fir (Abies grandis), western hemlock (Tsuga heterophylla), and western larch (Larix occidentalis), along with more familiar species such as douglas fir (Pseudotsuga menziesii), englemann spruce (Picea engelmannii), ponderosa pine (Pinus ponderosa), and lodgepole pine (Pinus contorta). Old growth forests made up of these tree species have been found to be 200-400 years old in the Swan Valley, and provide important habitat for many plant and animal species such as neotropical birds, orchids, and the Pacific yew (Taxus brevifolia Nutt.).[21] The Pacific Yew, once piled and burned and considered to be a "trash tree", has been found to be a potential cure for some forms of cancer.[22]

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[21]Montana Audobon Council. "Take a Stand For Old Growth," Montana Audobon News, Summer 1992, 1-4.

[22]Ibid, 3.

CHAPTER 3

SWAN VALLEY HUMAN RESOURCE PROFILE

Understanding the human resource aspects of an area is a vitally important aspect of developing effective land use planning. Recent research in the Swan Valley has provided planners and concerned citizens with important information about socioeconomic characteristics of the people and their preferences for future land use and development.

Socioeconomic Characteristics of the People

The Swan Valley has had a colorful past and rich tradition due to past generations of homesteaders, foresters, millworkers, loggers, outfitters, and seasonal residents.[1] Past residents of the valley enjoyed a remote backwoods lifestyle, that has gradually given way to change due to an increasing population base, better transportation, and changes in socioeconomic conditions. The people that do live here still enjoy a rural way of life that allows them to live in a very scenic, tranquil, and highly popular area that for many takes on a spiritual meaning. The backdrop of

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[1]Suzanne Vernon, Cabin Fever: A Centennial Collection of Stories About the Seeley Lake Area (Seeley Lake Mt.: Vernon Printing and Publishing, 1989).

wilderness on each side of the valley provides a sense of contentment for many residents who enjoy fishing, hunting, backpacking, photography, and for others, "just Knowing it is there."

Many people who own property in the Swan Valley use it for recreational use (hunting camps, weekend retreats, summer vacations, etc.), or as second homes. This is especially true along lakefront property with Swan Lake, Holland Lake, and Lindberg Lake being the most popular. In the summer months the community of Swan Lake has the greatest concentration of tourists and seasonal recreationists that visit the Swan Valley.[2]

Employment

In recent years there have been significant changes in the character and the population of the valley. Better than 25 percent of the population worked in the forest resource industries in 1980.[3] By 1992, forest resource jobs were held by only 19 percent of the population, which reflects a statewide trend that has seen 20 percent of Montana wood products industry workers either loose their jobs or change

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[2]A large US Forest Service Campground is located here, along with a boat-launching site, swimming beach, and picnic area. Also, many private entities offer opportunities for camping, recreational vehicle parking, and vacation rentals.

[3]United States Dept. of Commerce, Bureau of the Census. US Census of Population and Housing - 1980 Lake and Missoula Counties, Montana. (Washington, DC: US Dept of Commerce, 1980).

jobs since 1979.[4]

Along with a major change in the character of Swan Valley residents is the fact that the population is increasing rapidly.[5] The number of residential lots in the valley increased by 30 percent from 1987 to 1993, and the number of commercial lots doubled during that same period.[6]

Currently the largest group of residents in terms of numbers are retirees. About 27 percent of the permanent residents and 42 percent of the seasonal residents are retired, and overall, 30 percent of the valley's residents are retired.[7] An economic profile of retirees and other occupation categories was determined based on a permanent and seasonal criteria (Table 3).

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[4]Larry Swanson, The Shifting Place of Trade in Montana: Patterns in the Growth and Location of Retail and Services Trade. Montana Business Quarterly 29 (2): 2-11.

[5]The population is currently over 1700 and is causing an increase in private land development. This phenomena will be further analyzed in Chapter 4 (Swan Valley Land Use Planning Review).

[6]Pat O'Herron, Swan Valley Rural Planning, Unpublished Report, (Missoula, Mt.: Missoula County, 1993).

[7]M. Lambrecht and D.H. Jackson, Identifying the Profile of Montana's Swan Valley: An Inventory of its Human Resources and a Summary of its Preferences for the Future. Missoula, Mt.: U. of M. School of Forestry, 1993), i.

Table 3. Economic profile of retirees and other occupational categories of employment based on a permanent and seasonal criteria

EMPLOYMENT CATEGORY	(PR) 1	PERCENT 2	(SR) 3	PERCENT 4	(TR) 5	PERCENT 6
Retirees	108	27%	51	42%	159	30%
Timber Related	78	19%	7	6%	85	16%
Recreation/ Tourism/Retail	44	11%	6	5%	50	10%
Building/Real Estate	21	5%	3	2%	24	5%
Agriculture	21	5%	2	2%	23	4%
Nonprofit/ Conservation	3	1%	1	1%	4	1%
Other Occupations	126	32%	52	43%	178	34%
Totals	401	100%	122	100%	523	100%

Source: Mark Lambrecht and D.H. Jackson, Identifying the Profile of Montana's Swan Valley Community: An Inventory of its Human Resources and a Summary of its Preferences for the Future, (Missoula, Mt.: U. of M. School of Forestry, 1993), 6.

Note: Column 1 is permanent residents (PR), column 3 is seasonal residents (SR), and column 5 is total residents (TR).

The Swan Valley survey conducted by Lambrecht and Jackson discovered a great variety of occupational types for

valley residents.[8] Research dealing with employment has revealed the following facts about the Swan Valley:[9]

1. Although the unemployment rate among permanent residents was only found to be 5 percent, nearly 25 percent of permanent residents hold more than one job to make ends meet. Coupling this fact with the percentage of residents who desire to work additional hours, suggests evidence of underemployment.
2. It was found that 60 percent of permanent residents were employed, while 54 percent of the seasonal residents were not. This situation suggests that disputes are likely to arise between those permanent residents who need to use the natural resources in the valley to maintain their livelihood, and seasonal residents who would rather see the resources preserved for their scenic and recreational values.
3. One-half of all employed residents are self employed. This fact reveals that the local economy does not depend on outside interests to provide jobs.
4. Residents indicated a need for new businesses or services and also a need for improvement in existing businesses and services (Tables 4 and 5).

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[8]The survey was quite intense in that it came in the form of an oral interview of 523 Swan Valley residents, ages 18 and over. The data were analyzed by differentiating between permanent and seasonal residents.

[9]Lambrecht and Jackson, 12-14.

Table 4. Permanent and seasonal resident perceptions of new businesses needed in the Swan Valley

NEW BUSINESSES NEEDED	PERMANENT	SEASONAL	TOTAL
Diner	64	6	70
Family Recreation Center	43	0	43
Day Care Center	24	0	24
Health Care Service	15	5	20
Hardware	17	1	18
Car Wash	15	0	15
General Store	10	4	14
Small engine Repair Shop	10	2	12
Mini-Storage	2	7	9
Diesel Fuel Pump	7	0	7
Drycleaning Service	5	2	7
Plumber	7	0	7
Refrigerator Repair	6	0	6
Electrician	5	0	5

Source: Lambrecht and Jackson, 1993, 14.

Table 5. Permanent and Seasonal resident perceptions of businesses already operating in the Swan Valley that need improvement

BUSINESSES/SERVICES TO BE IMPROVED	PERMANENT	SEASONAL	TOTAL
Auto Repair	34	5	39
Restaurant Quality	18	9	27
Treatment of Locals	18	0	18
Logging Practices	14	3	17
Restaurant Prices	7	4	11
USFS Road Closures	11	0	11
Grocery Variety	8	1	9
Reliability of Handiwork	7	2	9
Mail Delivery	8	0	8
Grocery Prices	7	0	7
Garbage Service	6	0	6
Slash Burning	5	0	5
Activities for Teens	3	0	3

Source: Lambrecht and Jackson, 1993, 14.

Education

The residents of the Swan Valley seem to be very well educated.[10] Research indicates that 48 percent of the permanent residents of the valley have at least a high school education, while an additional 21 percent continued

[10]Ibid., 14.

with some form of higher education.[11] The permanent residents that have completed advanced degrees make up about 27 percent of the population.[12] The seasonal residents seem to have more formal education than the permanent residents, as 58 percent of them have either a college degree, advanced degree, or advanced degree coursework.[13]

Preferences for Development

Determining preferences for development in an area is an important aspect of developing a land use plan that provides for the peoples needs. Being able to put together a "feeling for the community" is an important aspect of attempting to understand how to effectively make planning recommendations.

Research has identified the following tendencies toward resident preferences for Swan Valley development:[14]

1. There appears to be a strong preference among residents to save natural resources to benefit future generations.
2. Valley residents seem to modestly favor the inherent values of nature over just using nature to produce the goods we need.
3. Even though it seems to be well known by valley

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[11]Ibid.

[12]Ibid.

[13]Ibid.

[14]Ibid., 9.

residents that local public lands (state and federal) are managed by far away decision makers, they still would rather have the most say regarding land use on these public lands.

4. In regards to the use of local forest lands, there is a modest tendency toward protecting environmental quality at the expense of local jobs.
5. Valley residents slightly prefer to change jobs if necessary, to protect the environmental quality of the area.
6. There is a modest preference toward prohibiting private property uses when these uses produce harm to the environment. This is the only value issue that showed signs of polarization.
7. Residents feel that the Swan Valley economy is too dependent on timber, and it was implied that the valley should be less dependent on timber in the future.
8. Residents of the valley slightly agree that the economy of the valley should become more diversified.
9. There is a slight preference by valley residents for a state of community decline as opposed to major growth.
10. There is an even division among valley residents as to whether the valley is a better place to live now or was 10 years ago.
11. A modest preference has been suggested by valley residents for emphasizing a diversity of game and

nongame species, over emphasizing the production of an abundance of game species.

12. Finally, residents seem divided on the question of whether they would like to see less regulation or more regulation of land use activities in the valley.

Swan Valley residents overall seem to prefer protecting the environment they live in, versus supporting growth and development in the valley. They appear to be not totally against growth and development, but prefer changes that preserve the aesthetic qualities of the valley. Some polarization on the issue of developing private property at the expense of the environment still exists. The interests of the valley residents seem to be very conducive to giving input on future planning objectives.

CHAPTER 4

SWAN VALLEY LAND USE PLANNING REVIEW

The structure of Swan Valley land management can be classified primarily into five different categories of ownership (Table 6).

Table 6. Percent of Swan Valley study area occupied by designated categories of land ownership or management

CATEGORY OF LAND OWNERSHIP	PERCENT OF THE STUDY AREA
USFS Non-Wilderness	47%
USFS Wilderness	16%
Plum Creek Timber Company	18%
Montana Department of State Lands	10%
Private	9%
Total	100%

Source: Interdisciplinary Research Team, 1994, IV-67.

Note: The US Fish and Wildlife Service manages the Swan River National Wildlife Refuge just south of Swan Lake (less than one-half of 1 percent of the total of the study area). Water covers eight-tenths of one percent of the study area and has been listed under the ownership where it occurs.

The Swan Valley represents the epitome of an area that has multiple types of land ownership and management direction. Sound land use planning involves cooperative ventures among the various land owners and county planning departments. The Lake and Missoula County Planning Departments have developed general planning guidelines by following existing state land use laws, developing new rules and regulations, and soliciting citizen participation.

Land management and planning decisions should be based on fulfilling the goals and desires of the land owner or manager, with consideration for adjacent land owners interests and overall the impact on the environment. Each of the major landowners in the Swan Valley have an interest in managing their lands to achieve certain land management objectives. The Montana Department of State Lands manages its lands for timber production to provide funds for the secondary school system in the state of Montana. The US Forest Service has the most multifaceted management style, and manages its lands for many uses (recreation, timber, fish, wildlife, etc.). Land is managed by Plum Creek Timber Company to extract timber, primarily to supply the company's mills. Private land use interests in the valley include homesite development, ranches and ranchettes (5-20 acres), large commercial outfitting ranches, and small commercial ventures (restaurants, gas-groceries, etc.).

When consideration is given to aspects of the valley

such as wildlife habitat and species needs, aesthetic values of the land (view sheds, clean water, rural lifestyles, etc.), and the need for recreational opportunities (hiking, hunting, fishing, snowmobiling, cross country skiing, etc.); conflicts often arise over establishing appropriate laws, rules, and regulations, that will satisfy the needs and goals of all landowners and recreationists. To develop a better understanding of the various types of landowners, each will be reviewed to summarize their land use and general planning objectives. A classification scheme will be developed that could be used to describe private land use in a more detailed manner than is currently available.[1]

State Land Use Planning Review

The Montana Department of State Lands (DSL) is the agency responsible for managing state lands in the Swan Valley. Just under 40,000 acres of land are managed by the DSL in the Swan Valley as the Swan River State Forest. The Swan Unit located in the central part of the valley at the Goat Creek Station is the subunit of the DSL carrying out management on the state forest.

Slightly less than 1,000 acres located north of the forest

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[1]This land use scheme will be used to summarize a reconnaissance survey of the Swan Valley, and could be used as a framework for future land use studies in the area. This scheme will be developed to analyze private lands (shown in white on the study area map), which, unlike state, federal, and corporate lands have never been surveyed in a detailed manner.

is managed by the Kalispell Unit of the DSL.

The Swan River State Forest is made up of a "checkerboard" pattern of ownership that includes state of Montana, USFS, Plum Creek Timber Company, and a small amount of private lands. A predetermined set of rules by the federal government gave alternating sections of forest land to the state and a private company, and allowed this pattern of development to evolve. The Organic Act of 1864 and the Enabling Act of 1889 were federal mandates, respectfully responsible for setting aside federal lands for state use, and allowing profits to be made from this land for the support and maintenance of public schools.[2] The primary goal of the Swan River State Forest is to provide funds to the state school trust fund, from the sale of timber.

The Swan River State Forest has developed a management plan to carry out management objectives based on the following planning considerations:[3]

1. Harvest stands of overmature timber using proper silvicultural methods, in accordance with a 5-year plan that will be reviewed annually. Intermediate thinning should be applied to stands which are overstocked and a

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[2]Montana Department of Natural Resources and Conservation (DNRC), 1978, 11.

[3]The Swan River State Forest Management Plan was put together in 1978 by the Montana DNRC, and is now administered by the Montana DSL. The basic plan has stayed intact, although changes occur in management style due to public pressure, politics, and changing laws.

diversity of tree species should be favored.[4]

2. All wildfires will be immediately suppressed. An aggressive program of fire hazard reduction, prescribed burning, and wildfire prevention will be carried out to aid in protecting and maintaining a healthy forest.
3. Maintain fisheries habitat through sound streambank management, coordination of methods with all agencies, and cooperation with Montana's universities.
4. Insect and disease assessment will take place annually.
5. Protect and maintain existing recreation areas such as picnic and camping areas.
6. Authorize special use permits on a case-by-case basis to insure that authorization granted is in the best interest of the state school trust fund, the state, and the people of Montana.
7. The road system on the forest should continue to be maintained in a cooperative manner with minimum environmental impacts.
8. Watersheds should be managed to cause minimal impacts to the environment by limiting man-made increases in average annual runoff and allowing for maximum participation in cooperative watershed management programs.

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[4]Up until June of 1993 inmates from the Swan Forest Camp worked on the forest in the Institutional Forestry Work Program. The inmate work crews performed forest management tasks involving precommercial thinning, tree planting, and wildfire suppression. Since that time the program was discontinued, and the work is performed on a smaller scale by state employees and contract employees.

9. The protection of wildlife should be fully supported by working closely with the Montana Dept. of Fish Wildlife and Parks, other agencies, forest landowners, and the public.

Federal Land Use Planning Review

The US Department of Agriculture's Forest Service prepares an integrated plan for the management of each National Forest.[5] Because of the broad based land management style of the Forest Service, the agency is relied upon to protect wildlife habitat, provide for recreational opportunities, manage lands for timber, and overall protect the environment of National Forest Lands for all of the nation.

The general goals for managing the Flathead National Forest (FNF) and more specifically Swan Valley lands are to provide:[6]

1. Public benefits from National Forest lands
2. Long-term stewardship of the land
3. Leadership in forestry

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[5]The Forest and Rangeland Renewable Resources Planning Act of 1974, the National Forest Management Act (NFMA) of 1976, the National Environmental Policy Act (NEPA) of 1969, and their specific implementing regulations, provide direction for the planning process.

[6]USDA Forest Service, Forest Plan Amendment # 19: Allowable Sale Quantity and Objectives and Standards for Grizzly Bear Habitat, Amended Environmental Assessment, (Kalispell, Mt.: Flathead National Forest, February 1995), 1.

4. Commitment to public service.

The forest plan is the primary document used to guide planning and management principles. The forest planning amendment is used to make changes in the forest plan on an as needed basis. The Forest Service is held accountable by the public for its actions, and often faces public criticism and scrutiny from individuals and environmental groups, who are not satisfied with management decisions.[7]

The USFS (FNF) manages approximately 276,000 acres in the Swan Valley. The Swan Lake Ranger District located at Bigfork is the subunit of the FNF responsible for carrying out management objectives. The district ranger is responsible for land management planning and use, with direction from the FNF supervisor. All planning guidelines follow existing state and federal laws, with considerations for specific local needs.

A forest plan was developed in 1985 that is to be revised every 10-15 years, with interim amendments as needed.[8]

This plan is currently being used and provides for the

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[7]A combination of lawsuits and appeals have been filed by environmental groups such as Resources Limited Inc., Friends of the Wild Swan, Swan View Coalition, Five Valleys Audubon Society, and the Sierra Club. These groups having local and national affiliation are concerned primarily with the impacts of timber cutting on wildlife (specifically grizzly bears), and have had a dramatic impact on the planning process.

[8]Flathead Forest Plan, I-1.

following:

1. A description of resource management practices, levels of resource production and timber management, and the availability and suitability of lands for resource management (timber, recreation, wildlife, water, etc.)
2. Long term direction for management on the Swan Lake Ranger District
3. General forest-wide management direction and specific direction for each ranger district
4. A monitoring and evaluation system to assess the objectives of the plan.

Over the past few years the Forest Service has begun to develop an ecosystem management style of land use management.[9] This concept is still being developed and is in the process of being implemented into planning and management objectives. This type of planning requires that land use management be looked at in a more holistic fashion and encourages adjacent land owners to do likewise. Recent trends in timber management on Swan Valley Forest Service lands indicate a decrease in timber harvest from 80 million board feet harvested in 1992 to 46 million board feet harvested in 1993, with these lower volumes expected to

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[9]In chapter 7 ecosystem management will be discussed more in depth and will provide the basic framework and philosophy behind the concept will be noted.

continue into the future.[10] A dwindling timber economy has been substantially supported by tourism, recreation, and summer home residents.[11]

Plum Creek Timber Company Land Use Planning Review

Plum Creek Timber Company manages approximately 86,000 acres of land in the Swan Valley. The company is the result of several corporate reorganizations of the Burlington Northern Railroad, itself the result of the merger of the holdings of the Great Northern Railroad Company and the Northern Pacific.[12] Plum Creek's land holdings in the Swan Valley are the result of land grants given to the original railroad corporations by the federal government, to encourage the development of railroads and remote lands.[13]

The primary purpose of Plum Creek Timber Company land use in the Swan Valley is to supply timber to the company's mills, and sell excess timber to other mills.[14] The company goals are profit based, with timber at this time being the

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[10]Seeley/Swan Economic Diversification Action Team, The Economic Diversification Action Plan for the Seeley/Swan Area, (Missoula, Mt.: Missoula County, 1993). 1-6.

[11]Ibid.

[12]Bechtold, T.M., "Now v. Forever: The Conflict Between Business and Forestry in the Management of Plum Creek Timberlands in Montana" (Masters Thesis, University of Montana, 1992), ii.

[13]Ibid.

[14]Netherton, March 16, 1995.

main focus of business.[15] Due to the rapid rise in the value of private lands in the Swan Valley in recent years, the interest exists to sell company owned lands to enhance profits, but is not currently being planned.[16] The company claims that it has a timber management program that focuses on sustained yield management, that is often not completely understood by the public.[17]

To aid in building corporate image, Plum Creek has developed the following general environmental planning principles:[18]

1. Manage forest lands in a balanced, socially responsible, and economic manner
2. Try to avoid clearcutting and enhance ecological and structural diversity wherever possible
3. Meet and try to exceed federal and state water quality standards to protect fisheries and other wetland habitats
4. Protect air quality by burning as minimally as possible
5. Reforest areas in the most ecological and timely manner possible

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[15]Ibid.

[16]Ibid.

[17]Ibid., Frank Netherton stressed that the public often does not understand that old growth forests are actually declining in timber volume, and represent the loss of potential revenue to the company. He also recognized the value of old growth timber to wildlife species.

[18]Plum Creek Timber Company, Environmental Principle Fact Sheet, Seeley Lake, Mt.: (Plum Creek Timber Company, 1991).

6. Try to minimize soil disturbance
7. Cooperate with state and federal agencies to protect critical wildlife habitat areas
8. Manage for aesthetic values near communities or major travel routes
9. Cooperate with landowners to minimize cumulative effects of logging
10. Be innovative by responding to changing scientific knowledge, public concerns, and economic conditions.

Much skepticism seems to exist regarding these principles, as many Swan Valley citizens believe the company has not made good faith effort to comply with these principles.[19] During the 1980's Plum Creek Timber Company began to accelerate the cut of old growth timber in places like the Swan Valley, so profits could be maximized.[20] The Montana public became infuriated as enormous clearcuts, up to a square mile in size, began to appear on company lands.[21] However, since 1990 the use of large clearcuts to remove timber has been reduced on company lands, except in areas hit by pine beetle infestations or having other insect

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[19]In many informal interviews with valley residents (some of whom were company employees and wished not to be identified) over the past year; overwhelming sentiment conveyed that the company was not doing enough to protect the environment, especially in regards to water quality, scenic views, and wildlife habitat.

[20]Bechtold, 91.

[21]Paul Koberstein, "Plum Creek Timber leaves its mark on Montana," Oregonian (Portland), October 15, 1990, 5.

or disease related problems requiring a clearcutting management style.[22] Large areas clearcut over the past 10 to 15 years are quite noticeable in the central part of the valley in the mid elevations of the Mission Mountains. Through the mid 1990's, Plum Creek Timber plans to use profits from liquidated old growth sales in order to out-compete other mills for federal timber as their supply diminishes.[23] Although profit motives have sometimes dominated timber management objectives of the company, more sound land management cooperation is developing between Plum creek and its neighbors.[24]

Private Land Use Planning Review

Private lands make up approximately 38,000 acres of land in the Swan Valley study area. The small amount of private land available, coupled with the popularity of the area have combined to drive up land values sharply in recent years. These lands are concentrated mainly on the north and south ends of Swan Lake, and along highway 83 in the southern half of the valley. With few exceptions, private lands are found at lower elevations between 3,000 and 5,000

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[22]Sherry Devlin, "Plum Creek CEO pledges 'decades' of production," Missoulian, February 8, 1995, A-1.

[23]Ibid., 102.

[24]A summary of cooperative land management practices that involve all Swan Valley landowners will be discussed in chapter 7.

feet, with the majority of them being located under 4,000 feet. The origination of most of the private lands found today are the result of homesteading just before and after the turn of the century.[25] A fairly harsh climate coupled with the remoteness of the area, made homesteading difficult in the Swan Valley. Private land use planning within the study area is carried out by the Lake and Missoula County Planning Departments. Both departments follow existing state laws and guidelines for planning, and have developed more specific rules and regulations where needed. The planning efforts of each county will be reviewed separately along with the current state of private land development.

Lake County

Professional planning began in Lake County with the creation of the Lake County Planning Board in 1974.[26] To aid in planning, professional planners were hired and a board was appointed to represent various geographic segments of the county, which included a member from the Swan Valley. To gain valuable public input, community surveys were taken that showed residents had concerns about growth and development. Meetings were then held throughout the county

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[25]Kendric W. Flint and Nona D. Paul, Early History of Bigfork and Surrounding Communities (Bigfork, Mt.: By the authors, 1957), 27-32.

[26]Lake County Board of Commissioners, Introductory legal page (not numbered).

to gather input from the citizens. In 1987 a general plan was adopted to guide land use and development in Lake County, and has been used since that time with zoning regulations added to protect specific areas.

Approximately 8 percent of the land in the Lake County portion of the Swan Valley is owned by private individuals. The latest population figures from 1990 indicate that 952 people lived here in 1990 compared to 643 people in 1980.[27] This large increase in population spawned accelerated subdivision activity from the period 1985 to 1994, as 3470 acres were subdivided into 101 lots, of which 57 percent of these parcels were 20 acres or larger.[28] Private lands in the area have become popular for the development of vacation homes and second homes due to the scenic natural surroundings and fairly close proximity to the communities of Bigfork and Kalispell. Ferndale, Swan Lake, and Salmon Prairie are the communities located in this area and will be reviewed separately.

Ferndale

The community of Ferndale, which straddles the lake and Flathead County boundary line in the north end of the study area has the greatest amount of private land development in

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[27]Mary Livermore, Lake County Planner, telephone interview by author, March 21, 1995.

[28]Ibid.

the Swan Valley. The community has a gas-grocery store, volunteer fire department, and a bar, with more extensive services offered at Bigfork located 3 miles to the north. An airstrip serving small planes has been built to the north just over the county line in Flathead County. This area has become popular because of the Swan Lake and Swan River frontage that it offers, and also by being near Flathead Lake and the surrounding beauty of the forested Swan Mountain range to the east and the foothills of the Mission Mountains to the West. Swan Sites Subdivision is part of the Ferndale community and is located on the north end of Swan Lake and has both lake and river frontage. This subdivision was first developed in 1973 and initially included 279 lots on 858 acres, making it the largest subdivision ever developed in the study area.[29] New homesites are being developed throughout the area adjacent to FNF land, which surround private lands to the east and west.

Swan Lake

The community of Swan Lake is located on the southeast corner of Swan Lake. A gas-grocery store and post office are located here as well as a few scattered commercial businesses, a church, and a school. The majority of the lakeshore property has been developed for homesites. The

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[29]Ibid.

community is highly popular in the summer and a seasonal population swell occurs at this time. Many of the seasonal visitors who come to vacation in the area do so with recreational vehicles which are accommodated by a Forest Service campground and a privately owned resort and recreational vehicle park.

Recent development on the west side of Swan lake has required the implementation of special zoning regulations for the Lower Bug Creek area:[30] These regulations were created to maintain the open rural character of the area and still allow for development consistent and compatible with the existing pattern of growth (Appendix A). The remainder of private development found south of Swan Lake and north of Salmon Prairie consists of scattered homesites mostly on parcels of 20 acres or more.

Salmon Prairie

Salmon Prairie is located at the southern end of the Lake County portion of the study area, approximately 2 miles north of the Missoula County line, and represents the central part of the entire study area. Located just south of Swan Peak, the area offers tremendous views of the Swan Range to the east. The view to the west in this area has been somewhat marred by large clearcuts. A church and a

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[30]Lake County Board of Commissioners. Lower Bug Creek Zoning Regulations (1993), Resolution 920.

one-room school are found here as well as a small log-home building business. Developed parcels of land in this area range from a few acres in size to several hundred acres. There is some limited cattle ranching on the larger acreages that is supplemented by Forest Service and Plum Creek Timber Company leased land.

Missoula County

In Missoula County professional planning began with the adoption of the first comprehensive plan in 1975.[31] This plan has addressed the general need for guiding growth and development, with allowances for amendments to the plan when conditions warrant. More recent efforts at planning have included a conservation resource inventory[32] and an economic diversification plan.[33] Special zoning regulations have also been developed for lands adjacent to Lindberg Lake to protect the aesthetic quality of the area (Appendix B).[34] In 1987 a comprehensive plan amendment was developed by local residents with help from the rural planning department

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[31]Missoula County Board of Commissioners. Missoula County Comprehensive Plan. (Missoula, Mt.: Missoula County, 1975).

[32]Missoula County Rural Planning Office, 1992.

[33]Seeley/Swan Economic Diversification Action Team. The Economic Diversification Action Plan for the Seeley/Swan Area. (Missoula, Mt.: Missoula County, September 28, 1993).

[34]Zoe Mohesky, Missoula County Rural Planner, Interview by author, March 21, 1995.

of Missoula County.[35] This plan began to more intensely address the need for maintaining the rural-wild quality of the Swan Valley. Goals were written into the plan to aid in the healthy growth of the over all environment, economy, education, transportation, public facilities, services, and housing and neighborhoods. Ecological values (wildlife species such as grizzly bear, elk, deer, etc., rare plants, quality open space) were given special consideration in the plan.

The population of this part of the Swan Valley is about 750 people.[36] This represents significant growth in recent years, even though relatively little land is available for private development. Increased post office box rentals, elementary school enrollment, telephone connections, and residential and commercial lot numbers indicate that accelerated growth is occurring.[37]

This area has a profound rise in seasonal population during the summer because of the abundance of second homes. A variety of private land development exists in this part of the Swan Valley including small acreage homesites, guest ranches and outfitting businesses, and small commercial ventures. Unique to the area are cabins built of log

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[35]Missoula County Board of Commissioners. Swan Valley - Condon Comprehensive Plan Amendment. (Missoula, Mt.: Missoula County Commissioners, 1987.

[36]Seeley /Swan Economic Diversification Action Team, 1-4.

[37]Ibid.

construction, often by builders who have learned the trade by it being passed down through the family. A major log home building business is located here along with many smaller family-owned enterprises of a similar nature. Almost all of the private land is located adjacent to or within 3 miles of highway 83 and is fairly accessible by county maintained roads. Condon is the only community found in the Missoula County portion of the study area.

Condon

The community of Condon is located on the south end of the study area. Condon, probably more true than any other community in the entire study area represents a fairly large area, rather than a specific community. Condon is generally considered to be that area from just south of the Missoula-Lake County line to the Beaver Creek divide, the southern boundary of the study area. The Swan and Mission mountains provide an easy reference to the study area boundaries and offer spectacular views to the east and west along highway 83. In most years snowfields of the Mission Mountains can be observed year-around in the southern part of the Condon area. Commercial businesses found here include a couple of restaurants, gas-grocery store, a larger more extensively developed gas-grocery store, post office, guest ranches, motel, lodge, several small log-home building businesses and a large log-home building company. Some of the guest

ranches have been developed around outfitting businesses that offer guided hunting, fishing, and sight seeing trips into the Bob Marshall and Mission Mountains Wilderness areas. Most of the larger segments of private land ownership were once homesteads and have been passed down through families. A ranger station owned by the Forest Service can be found here that has an airstrip and heliport available for the landing of small planes and helicopters. A community center maintained for public meetings and social gatherings, an elementary school, and a public library are located here. Also, a unique feature to the community is a wildlife rehabilitation center that helps take care of injured birds and other animals.

Land Use Classification Scheme

To allow for a more detailed look at Swan Valley private land use, a general classification scheme was developed (Table 7, pages 50-52) from a field reconnaissance survey. This type of scheme is based on a standardized format that has been modified to take into consideration unique characteristics of the Swan Valley.[38] The operational taxonomic unit (otu) of land to be coded would range from 0-10 acres. Each parcel of private land would be coded with a three digit numerator and a two digit

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[38]Robert H. Stoddard, Field Techniques and Research Methods in Geography, (Fairfax, Va.: Tech Books Printing and Publishing, 1982).

denominator. This type of classification scheme could be combined with Geographic Information System (GIS) computer mapping software to produce maps based on the numerical land use codes. Categories of description developed within the scheme could be used to describe current and predicted trends in private land use. Collecting the actual coding information for this type of scheme would require on site observations of land use characteristics, and the use of surveys to determine anticipated trends in land use.

Table 7. Swan Valley private land use classification scheme

Numerator			Denominator	
1. Developed Homesite on 0-10 acres	1. 0-1 acre 2. Greater than 1 acre and less than 3 acres 3. 3 acres to 6 acres 4. Greater than 6 acres up to 10 acres	1. Frame construction 2. Log construction 3. Mobile Home	1. 0-10 years old 2. 10-20 years old 3. Greater than 20 years old	1. Inhabited all year long 2. Seasonal use 1-4 months 3. Used less than 1 month per year
2. Vacant land 0-10 acres	1. 0-1 acre 2. Greater than 1 acre and less than 3 acres 3. 3 acres to 6 acres 4. Greater than 6 acres up to 10 acres	1. Electricity, water, and septic system available on property 2. Partial utilities available (1-2 of the above) 3. No utilities available	1. Good access by maintained public road 2. Poor access by seasonal private road 3. No access by road	1. Has been partly or completely subdivided 2. Has not been subdivided 3. Conservation easement prevents future development

Numerator			Denominator	
3. Agricultural/Forestry land on tracts greater than 10 acres with^{w} or without^{wo} a residence	1. Old growth timber 2. Mature timber 3. Currently being logged 4. Selectively logged 5. Previously logged with minimal regeneration 6. Previously logged with established pole size or larger trees 7. Recently burned (not reforested) 8. Christmas tree production 9. Pasture 10. Hay production 11. Natural clearing 12. Wetland	1. Has been partly or completely subdivided 2. Has not been subdivided 3. Conservation easement prevents future development but allows current uses 4. Conservation easement prevents any further development	1. Good access by maintained public road 2. Poor access by seasonal private road 3. No access by road	1. Used all year long 2. Seasonal use 1-4 months 3. Used less than 1 month per year 4. Currently not being used in any capacity
4. Public land use	1. School 2. Church 3. Fire station 4. Community hall 5. Library 6. Designated for parkland	1. Under utilized 2. Meeting community needs 3. In need of expansion	1. Expansion anticipated 2. Expansion not anticipated 3. Expansion possibilities cannot be determined	1. Land is available at site for expansion 2. Land is not available on site for expansion
5. Commercial land use	1. Retail (gas-groceries) 2. Service(bed and breakfast, mini storage,etc.) 3. Log home building (family operated) 4.Saw mill (family operated) 5. Motel 6. Recreational vehicle park-cabin rental	1. Under utilized 2. Meeting community needs 3. In need of expansion	1. Expansion anticipated 2. Expansion not anticipated 3. Expansion possibilities can not be determined	1. Land is available on site for development 2. Land is not available on site for development
6. Light industrial land use	1. Log home corporation 2. Peat production and shipping plant 3.Post and pole production facility	1. Under utilized 2. Meeting community needs 3. In need of expansion beyond community needs	1. Expansion anticipated 2. Expansion not anticipated 3. Expansion possibilities can not be determined	1. Land is available on site for development 2. Land is not available on site for development

Note: An example of how the coding scheme works is illustrated by the following:

Land coded with the number 3^{wo}62/31 would represent a 10 acre parcel of private land (agriculture/forestry

designation), without a residence, previously logged with established pole size or larger trees, has not been subdivided, has no access by road, and is currently not being used in any capacity. A separate coding description for agriculture was not developed because of the limited use of land in the Swan Valley for this purpose.

Parcels of land greater than 10 acres but less than 20 acres would get one coding description. Parcels of land greater than 20 acres would be gridded into 10 acre blocks and get one coding description for each 10 acres of land (as an example 160 acres would get coded into 16 operational taxonomic units.

CHAPTER 5

PLANNING CONSIDERATIONS FOR RURAL-WILDLAND FIRE PROTECTION

Fire has played and will continue to be a major factor in the development of ecological processes in the Swan Valley. The influx of people into the valley who are involved in the development of private lands has provided the need for planning considerations to protect homes from the threat of wildfire. State and local governments need to design building and development standards for "fire wise construction" in rural-wildland areas prone to wildfire.[1] As the population increases in terms of seasonal use and full time residents, the chance for man-caused fires increases, which further warrants the need to develop plans to protect vast acreages of wildlands interspersed between and adjacent to private lands. Natural fires are always a threat to private property and are most commonly started by lightning. These fires are sometimes allowed to burn in the wilderness areas to maintain the fire ecology of the ecosystem, as long as they do not become a threat to lands and private property adjacent to the wilderness. Wilderness

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[1]Sherry Devlin, "Forest Service Chief vows to reexamine fire policy in 'wildland-urban interface,'" Missoulian, September 2, 1994.

fires are managed on an individual basis to determine whether they should be allowed to burn. The Montana DSL, and the Forest Service are responsible for controlling wildfires in the Swan Valley.[2]

Fire management planning involves carrying out the following action plan:[3]

1. Provide direct and immediate suppression of all fires outside of the wilderness areas
2. Maintain a fire hazard reduction program to effectively treat logging slash and dead timber
3. Plan and execute prescribed burning efforts in a manner to minimize air pollution
4. Administer an aggressive program of wildfire prevention

Homesite Development Planning in Fire Prone Areas

Structural fire protection is available in the Swan valley but its effectiveness is limited because of the

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[2]The DSL maintains headquarters at Goat Creek on the Swan State Forest, and uses the forest Service work center at Condon, to outfit their needs for firefighting in the Swan Valley. The DSL is responsible for controlling all wildfires in the Swan Valley that are not in wilderness. The Swan Lake Ranger District located at Bigfork is responsible for controlling all wildfires in the Swan Valley that occur in the wilderness (Mission Mountains and Bob Marshall).

[3]The DSL and Forest Service are responsible for suppression efforts and maintaining an effective fire hazard reduction program to insure that fire hazards do not develop on state, federal, or private lands where logging has taken place.

distances of homesite development from the fire stations.[4] Wildfire management planning in the Swan Valley must meet the needs of fire dependent ecosystems as well as private land development. Homesites developed on private lands in the Swan Valley require considerable site specific planning to prevent being devastated by forest fires that might occur.

The following recommendations should be adhered to when planning a homesite development in the Swan Valley:[5]

1. A 30-foot safety zone or firebreak should be created around all buildings on the property by clearing flammable materials away. If the home sits on a slope, extend the safety zone to 100 feet on the side slope.
2. All homes should keep the fire department emergency number near each telephone, install smoke detectors on each level of the home, and decide on and practice an escape plan for residents.
3. All overhanging tree limbs should be trimmed away from the roof of a structure.
4. All homes with a chimney or stovepipe should be equipped with a wire mesh spark arrester.

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[4]Local citizens have developed organized volunteer fire departments at Swan Lake and Condon, which are also supported by volunteer fire departments located at Bigfork at the north end of the valley and Seeley Lake located south of the Swan Valley. These fire departments have search and rescue and quick response medical capability.

[5]Sherry Devlin, "Save Your Paradise From Being Lost," Missoulian, October 9, 1994, E-1.

5. Firewood should be stacked on a contour away from buildings and 100 feet from all structures, with kindling kept in a separate place.
6. Flammable shrubs and trees should be eliminated within a 30 foot radius of the home (safety zone) and all outbuildings and weeds and tall grasses should be cut short or cleared entirely. If the house is on a slope this safety zone should be extended to 100 feet on the down hill side, because fire will travel upslope.
7. Inside the safety zone fire resistant trees and shrubs should be planted, and branches of taller established evergreen trees should be pruned the first 10 feet off of the ground.
8. Beyond the safety zone, dead trees and brush should be removed and the understory trees thinned to lessen fuel buildup in case of fire.
9. If the access to the property leads to a cul-de-sac, or dead end, an adequate turnaround radius should be provided (suggested minimum is 45 feet).
10. For new home construction, fire officials and contractors should be consulted before building a house to make sure fire-safety is considered.

CHAPTER 6

RIPARIAN-WETLAND PLANNING CONSIDERATIONS

The Swan Valley is made up of a vast network of riparian-wetland habitats that are utilized extensively by human and wildlife populations, and provide unique habitat to many plant species.[1] These habitat types are very sensitive to any type of development or use and are extremely important in supporting the framework of existing ecosystems.

> **It must be stressed that riparian areas are considered to be the thread that ties all features on the landscape together, and if that thread is unraveled, the effects will ripple throughout the land. Riparian-wetland areas are disappearing at the rate of over 200,000 acres annually in the United States, and represent the most rapidly disappearing type of wildlife habitat.[2]**

Lake, stream, and river frontage have historically been popular for the location of trails and homesite developments in the Swan Valley. The abundance of fresh water, wildlife,

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[1]Riparian-wetland areas are the green zones associated with lakes, potholes, springs, bogs, fens, wet meadows, and ephemeral, intermittent, and perennial streams. The author has acquired a knowledge base of these habitat types in the Swan Valley by personal exploration and working on forest management projects over the past 14 years.

[2]Paul Hanson, Riparian Ecologist, Riparian-Wetland Management Lecture at the University of Montana, Fall Semester 1993.

and overall aesthetic qualities of these areas attract people to them. Wildlife species attracted to these areas are dependent on them for survival.

Past poor land management practices on public and private lands have damaged riparian-wetland habitat in the Swan Valley.[3] Wildlife, fisheries, livestock, timber, and recreation are categories of riparian-wetland management planning that deserve further examination.

Wildlife

The scenic beauty of the Swan Valley is complemented by the abundance and variety of wildlife that are found here. Great blue herons, the endangered bald eagle, osprey, numerous neotropical bird species, grizzly and black bear, deer, elk, moose, and small furbearing animals are some of the species that depend directly on riparian areas. Riparian vegetation provides fawning and calving sites for deer, elk, and moose. Riparian-wetland vegetation forms a mosaic pattern on the landscape that is made up of a great variety of herbaceous plants, shrubs, and trees. There are 32

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[3]The majority of this damage has come in the form of improper logging practices involving the cutting of timber too close and within known riparian-wetland habitat, excessive road building, and a failure of all landowners involved to consider impacts to the total ecosystem. An increasing population and the subsequent development of private lands has also impacted wildlife.

species of rare plants found in the Swan Drainage, of which the majority require wetland habitats.[4] Tree species such as black cottonwood and spruce, and shrub species like alder and red-oiser dogwood are commonly found in riparian habitats in the Swan Valley. The large spreading crown of black cottonwood provides suitable nesting sites for bald eagles and ospreys[5] and for great blue herons.[6] The riparian-wetland corridor and fringe habitats provide feeding, nesting, escape, and migration opportunities for many species.

The grizzly bear is the species most dependent on riparian habitat for its survival. Drainage systems in the Swan Valley provide travel corridors for the grizzly to move between the Mission and Swan Mountains.[7] These corridors are critical habitat because they allow a stronger gene pool to be maintained, by allowing bears from the Mission Mountain Wilderness to breed with a much larger population of Grizzlies in the Bob Marshall Wilderness. The drainage corridors in the Swan Valley have become impacted by road

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[4]US Forest Service, 1994, IV-24.

[5]Ramona P. Hammerly and Stephen F. Arno, Northwest Trees, Seattle, Washington, 1984.

[6]Jill Parker, "Great blue herons in northwestern Montana: nesting habitat use and the effects of human disturbance", Masters Thesis, University of Montana, 1980.

[7]John Craighead, J.S. Sumers, and G.B. Scags, A definitive system for analysis of grizzly bear habitat and other wilderness resources, (Missoula, Mt.: U. of M. School of Forestry, 1982), 1.

building and homesite development, causing the grizzly population to decline from an estimated 25 bears in 1976 to 10-15 today.[8]

Four key riparian linkage zones have been identified that have the least development, and offer the best chance for the grizzly to survive in the area:[9] A map of the four zones is provided in Figure 2.

1. The top priority zone crosses the boundary between the Clearwater drainage and the Swan Valley drainage, just south of Holland Lake.
   This zone gives grizzlies access from the heart of the Mission Mountains Wilderness to the Bob Marshall Wilderness.
2. Just north of Condon an important linkage zone is made up of the Smith Creek drainage on the east side of the valley and the North and South Fork of Cold Creek drainages on the west side of the valley.
3. Just north of Salmon Prairie another important linkage zone connects Lion Creek on the east side of the valley with Cedar Creek on the west side of the valley.

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[8]Sherry Devlin, "The Bears Up There," Missoulian, March 9, 1995, C-1, C-3.

[9]Sherry Devlin. "Deal grants grizzly bear safe routes," Missoulian, March 3, 1995, B-1, B-4.

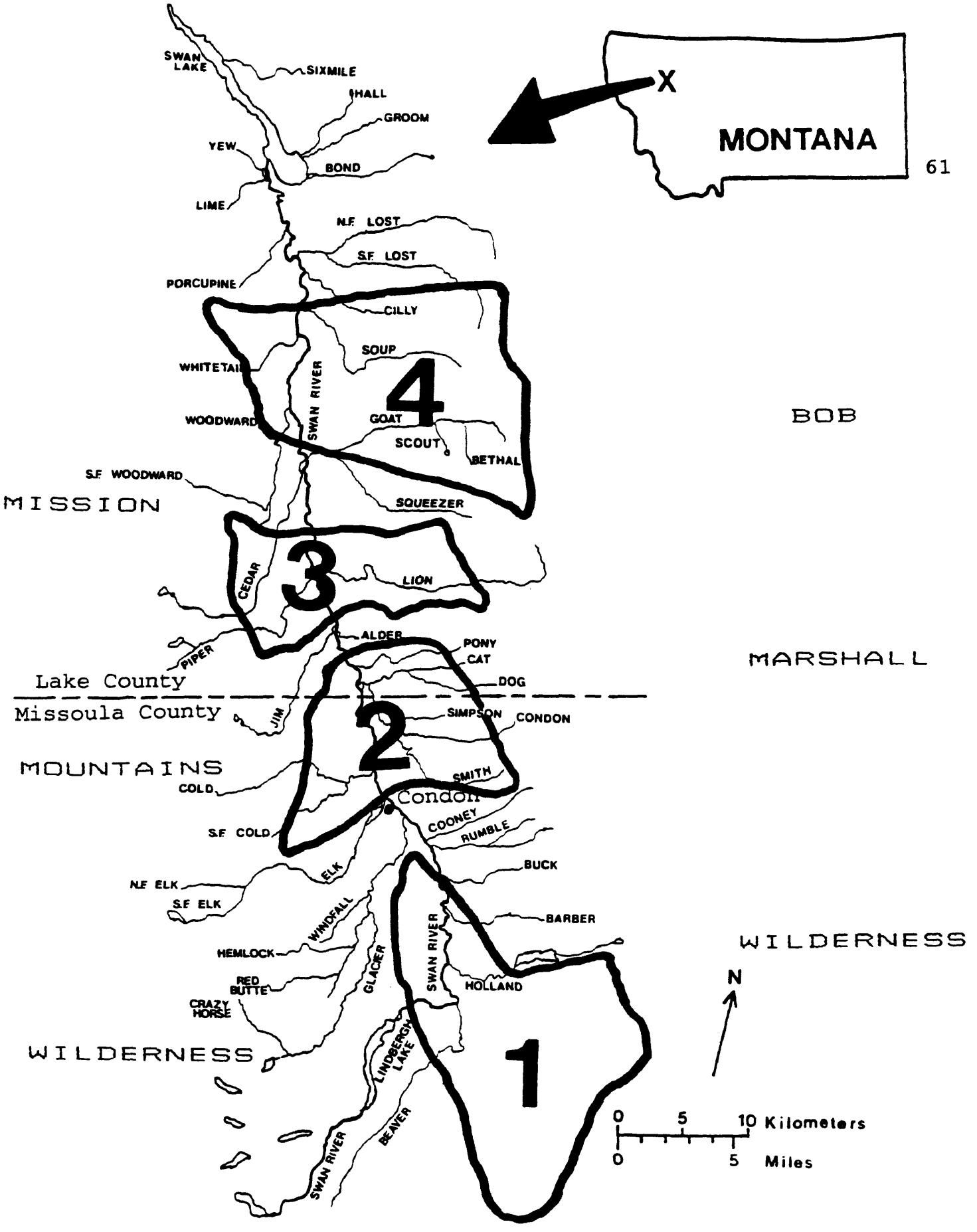

Figure 2. Riparian linkage zones used by grizzly bear in the Swan Valley

4. Primarily on the Swan River State Forest north of the Goat Creek Station, a critical zone links Soup Creek on the east side of the valley with Whitetail Creek on the west side of the valley. An agreement between the landowners involved is being drawn up to aid in the protection of these linkage zones.[10]

Beaver have a great influence on riparian habitats in the Swan Valley, by creating a succession of ponds, wetland meadows, and eventually drier meadow sites that support succulent herbaceous browse for deer, elk, and moose. These sites also create an edge effect which is conducive to supporting greater biodiversity. Timber species adjacent to ponds created by beaver die off and become snags, because of elevated water tables. Eventually these snags provide much needed nesting, feeding, and cover habitat for such species as wood ducks, pileated woodpeckers, and kingfishers. Many waterfowl species utilize numerous potholes, lakes, and wetland habitats that have been created by beavers. The importance of maintaining beaver populations in the Swan Valley cannot be stressed enough.

Fisheries

The Swan River and tributaries that flow into it, along with numerous lakes provide good fisheries habitat for

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[10]The details of this agreement along with the parties involved will be reviewed in Chapter 7.

brook, cutthroat, rainbow, and bull trout. The bull trout is still doing well in the Swan Drainage, where it depends on clean water free of sediment for spawning habitat.[11] The habitat needs of the bull trout may bring about more stringent laws, rules, and regulations on the timber industry to minimize impacts from timber extraction.[12] Located in the higher elevations of the Swan Drainage on mostly Forest Service lands are mountain lakes that provide excellent fishing for mostly cutthroat trout. The access to these lakes are by trails that take off from trailheads at the mid elevations. Most of these lakes are located above the elevation where logging activity has taken place and riparian habitat is fairly stable.

High priority should be put on maintaining healthy riparian vegetation, which aids fisheries by preventing wide fluctuations in water temperature and erosion control.[13] Riparian vegetation produces detritus that provides up to 90 percent of the organic matter necessary to support aquatic

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[11]The Montana Department of Fish, Wildlife, and Parks has implemented catch and release regulations and closed major tributary streams to fishing, to protect bull trout and cutthroat trout.

[12]The state and federal governments have recently considered legislation to protect the bull trout, because the Swan Drainage is one of the last strongholds of the species.

[13]W.R. Meehan, F.J. Swanson and J.R. Sedell, Influences of riparian vegetation on aquatic ecosystems with particular reference to salmonid fishes and their food supply, (Fort Collins, Colorado: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, 1977, General technical report RM-43.

communities.[14] The black cottonwood and red oiser-dogwood community type is common along the Swan River, and is valuable to fisheries because it provides for streambank stbility, thermal cover, and debris recruitment. Western snowberry, woods rose, and beaked sedge are found throughout the valley and aid in controlling erosion along streams. To aid in the rehabilitation of areas lacking this type of cover, these species should be planted or encouraged to come back naturally.

Livestock

Cattle make up the main component of livestock that are raised in the Swan Valley. Livestock grazing allotment areas comprise approximately 81,000 acres and are used as supplement pasture, but currently only about half that amount is being used.[15] The allotment areas include public, corporate, and private lands.[16] Because of the areas cool climate, lack of natural grassland habitat, and considerations for maintaining suitable wildlife habitat, raising livestock as a large scale operation has never been possible. Horses are commonly pastured out on small

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[14]A.G. Campbell and J.F. Franklin, Riparian vegetation in Oregon's western Cascade Mountains: composition, biomass, and autumn phenology. Coniferous Forest Biome and Ecosystem Analysis Studies, (Seattle, Washington: US International Biological Program, 1979), Progress Bulletin Number 14.

[15]Interdisciplinary Research Team, IV-74.

[16]Ibid.

privately owned ranchettes of five to twenty acres, and are maintained for purposes of pleasure riding.

Poor grazing management practices in the past have resulted in slight damage to riparian areas located along the Swan River. Primarily these situations occur on small acreage pastured areas, and have not had a major detrimental effect on riparian habitats. Impacts on a site specific basis include over-browsing of woody and herbaceous plants, pollution of the riparian zone by livestock excrement, and soil compaction.[17]

To protect riparian habitat private landowners should harmonize land management practices in a way that will maintain an integrated holistic perspective that considers the needs of fish and wildlife species.[18] Wherever possible livestock should be kept out of the riparian zone by fencing or placing salt blocks at strategic locations to encourage use on the less fragile upland sites. The riparian zone can be further protected by controlling stocking rates, rotating pasture use, adjusting season of use, and installing corridor fences where needed.

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[17]The US Forest Service has improved management of grazing allotments by limiting the use to June 1st-September 30th. This prevents livestock from causing erosion problems in the early spring before the vegetation has had a chance to establish itself.

[18]Jan Lundqvist, Ulrik Lohm, and Malin Falkenmark, Strategies For River Basin Management, (Boston, Mass.: D. Reidel Publishing Co., 1985), 41-48.

Timber

Within the confines of the Swan Valley is contained a vast timber resource. The majority of the timber lands are managed by the Forest Service, but in the central part of the valley large acreages on the Swan River State Forest are managed by Plum Creek Timber Company and the Montana DSL. The remainder of the lands are privately owned, and have seen significant logging activity, especially in the 1990's as the stumpage price of timber has risen dramatically. The rising price of timber combined with the demand for it has encouraged logging on private lands. Riparian areas have been impacted in the Swan Valley due to improper logging practices.[19] In the past decade forest management activities have improved because of more intense planning efforts by all parties involved.[20]

Forest lands can be managed to protect water quality, fish and wildlife habitat, recreation, and aesthetic beauty, by following these Best Management Practices (BMP's) and

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[19]This is very noticeable throughout much of the Swan Valley as evidenced by timber cutting having taken place on steep highly erodible slopes, which has cause increased erosion and siltation along ephemeral, intermittent, and perennial streams.

[20]This has been encouraged by many environmental groups pushing for better timber management, and the creation of BMP's and the Streamside Management Act of 1991 by the Montana Legislature.

Streamside Management Zone guidelines (SMZ's):[21]

BMP's

1. Logging roads should be designed to minimally impact the land. By limiting the number of roads built, locating roads on stable geology and well drained soils that tend to dip into the slope, and minimizing stream crossings, erosion problems can be reduced.
2. Erosion can be controlled during the construction process by minimizing earth-moving activities when soils are wet, constructing cut and fill slopes at stable angles, locating culverts where needed on new roads, and improving drainage on existing roads.
3. Adequate drainage should be provided by constructing drain dips on roads where needed.
4. Make sure that culverts, water bars, and drain dips do not discharge onto erodible soils or fill slopes without protection.
5. Periodically roads should be inspected and maintained by cleaning dips and cross drains, repairing ditches, and clearing debris from culverts.
6. Roads should be closed when not in use and reseeded if not to be used in the immediate future.

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[21]Bud Clinch and Bob Logan, Montana Forestry BMP's, (Bozeman, Mt.: Montana State University Extension Service, 1991).

SMZ's

The following are prohibited from taking place in the streamside management zone:

1. Broadcast burning
2. Operation of logging equipment, except on established roads
3. Clearcutting
4. Road constructing, except when crossing a stream or wetland
5. Handling, storage, application, or disposal of hazard or toxic materials in a manner that may pollute streams, lakes, or wetlands or cause damage to humans, lands, animals or plants
6. Side-casting of road materials into a wetland or watercourse
7. Depositing of slash in streams or other water bodies.

The SMZ should always be maintained at least 50 feet in width on either side of a stream, lake, or wetland. On highly erosive soils and steep slopes this width should be extended on a site specific basis. When logging in areas that are in question, a forester or soil scientist should be consulted. Implementing SMZ's and BMP's should reduce sediment load problems in streams, which will improve fisheries and enhance wildlife habitat diversity.

Recreation

The Swan Valley offers excellent opportunities for hiking, fishing, horseback riding, wildlife viewing, and photography. Riparian areas enhance the aesthetic beauty of the Swan Valley and provide habitat for a great diversity of fish and wildlife, which helps to support a thriving outfitting business that offers guided flyfishing, river float trips, big game hunts, trail riding, and nature study-photography excursions.

Recreational activities in the riparian zone should be managed to protect the resource from overuse on private and public lands. Camping should not be allowed to take place adjacent to streams or lakes, accept in designated sites. Horse stock should be utilized in such a way that trail erosion is minimized. Care should be taken when feeding and managing livestock, especially horses used in the wilderness, to prevent the spread of noxious weed species. Probably the number one threat to the abundance and diversity of wild plant species in the Swan Valley is the invasion of noxious weed species, of which spotted knapweed is the worst.[22] Feeding sites for livestock should be located out of the floodplain to prevent vegetation trampling, streambank erosion, and the overall degradation of aesthetic qualities of the area. Protecting riparian

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[22]Joseph Flood, Mission Mountains Wilderness Ranger, Interview by author, March 16, 1995, Salmon Prairie, Mt.

zones by maintaining proper recreation-management principles, protects the biodiversity of the area, and offers future generations the chance to enjoy the unique characteristics of the Swan Valley.

CHAPTER 7

ECOSYSTEM MANAGEMENT PLANNING

Ecosystem management is defined as the use of skill and care in handling integrated units of organisms and their environments. Ecosystem management planning provides common ground for all landowners to come together on issues requiring a consensus of management objectives. The philosophy of ecosystem management has been developed by the Forest Service through an evolutionary process of land management principles.[1] The Forest Service has identified the criteria that makes an ecosystem approach different than historical approaches to multiple use, sustained yield management. This criteria involves striving to sustain the vitality, diversity, and benefits of ecosystems, allows

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[1]At the turn of the century the Forest Service was established on utilitarian principles to provide wood products for a growing nation. As time went on the importance of multiple use became important as government land managers realized that the resources they managed were finite and should be managed in a more collective fashion that considers impacts to the total environment. In more recent times, from the 1960s on, laws were enacted that encouraged the preservation of resources to protect biodiversity, maintain aesthetic values, but still allow for resource extraction. The Wilderness Act of 1964, Endangered Species Act of 1973, National Environmental Policy Act of 1970, and the National Forest Management Act of 1976 represent federal legislation that has supported the evolution toward ecosystem management.

options for future generations, reflects a land ethic centered on sustainability, assures that threatened and endangered species, cultural resources, recreation, long-term site productivity, old-growth forests, and commodity production are considered. As the largest landowner with the greatest variability in habitat ownership, the Forest Service has the responsibility to implement the land planning concept of ecosystem management. Wildlife habitat, endangered plants and animals, and all of the aesthetic qualities of a rural environment need to be managed with a more broad based view of the land that ecosystem management has to offer. Due to a recent amendment to the Federal Advisory Committee Act, the Forest Service is now allowed to develop a planning dialogue with local governments.[2] This will allow the Forest Service to be able to work more closely with Lake and Missoula Counties on land use planning issues that are common to all landowners in the Swan Valley.

The development of the concept of ecosystem management has required the design of a comprehensive planning framework that defines peoples needs, provides a better understanding of ecological processes, and calls for stronger teamwork between scientists, resource managers, and

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[2]Doug Glevanik, Forest Service Planner, Northern Region Office, Interview by Author, April 3, 1995, Missoula, Mt.

concerned citizens.[3] Landowners in the Swan Valley have come together in various ways to support the concept of ecosystem management. Support has developed in the form of cooperative management projects between the various landowners involving conservation agreements, easements, and proposed land exchanges.

COOPERATIVE MANAGEMENT PROJECTS

Grizzly Bear Linkage Zone Agreement

The habitat needs of the grizzly bear have been the driving force to bring all Swan Valley landowners together to collectively manage critical areas used by the animal. The large expanse of land needed by the grizzly for survival cuts across all of the land ownership boundaries in the Swan Valley.

To protect the grizzly bear habitat linkage zones that were described in Chapter 6, the US Forest Service, Plum Creek Timber Company, Montana DSL, and the US Fish and Wildlife Service have put together a conservation agreement. The US Fish and Wildlife Service oversees the recovery of the threatened grizzly bear and is responsible for overseeing the agreement.

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[3]James Overbay, "Taking an Ecological Approach to Management," USDA Forest Service Workshop, Salt Lake City, Utah, April 27-30, 1992.

The conservation agreement provides for the following key elements to protect the grizzly bear:[4]

1. Cooperative work by the land managers will be carried out to limit motorized access and reduce administrative use of their road systems. Major public travel routes and roads to private residences will not be affected by this agreement.
2. Coordination of commercial logging to "concentrate and rotate" activities through the valley's 11 grizzly bear management subunits (each approximately 50 square miles in size), to reduce the overall disruption to bear habitat.
3. Maintain vegetation or other visual screening cover within the bear management subunits and near timber harvest units, to provide security for bears.
4. Cover will be maintained along open roads, streamsides, and in larger clearcuts.
5. The Forest Service agrees not to increase total road density on its lands. The others agree to cooperate in identifying roads on their lands which are unnecessary for management and can be blocked during the spring, summer, and fall to increase security for bears.
6. Intensive road management and seasonal operating restrictions will be established in the

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[4]Don Schwennesen, "Bear Essentials: Agencies agree on Swan Valley grizzly protection," Missoulian, March 2, 1995, A-1, A-10.

riparian linkage zones by all agencies to insure the availability of low-elevation spring bear feeding areas and to provide for movements of the grizzly between the Mission and Swan Mountains.

Condon Stewardship Forestry Project

The US Forest Service along with citizens of the Swan Valley have come together to propose a joint forestry project to promote an understanding of forest ecology, wildlife habitat and security needs, ecosystem components, and in addition possibly provide jobs to the community.[5] This type of community-forestry project provides the perfect setting for developing cooperative land use management, which supports the concept of ecosystem management in the Swan Valley.

The purpose of this project will be to utilize timber harvest, understory burning, and other treatments to restore an area of old-growth ponderosa pine and douglas fir forest in the vicinity of the Condon Ranger Station, to natural conditions of the past.

Through extensive public participation along with US Forest Service guidance, the following goals and objectives are hoped to be achieved:[6]

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[5]Chuck Harris, District Ranger Swan Lake Ranger District, Condon Forest Stewardship Project: Letter to the public, (Bigfork, Mt.: Swan Lake Ranger District, January 13, 1995).

[6]Ibid.

1. Restore and maintain the ecological health and productivity of the stewardship area in context with the overall ecological health of the forests in the Swan Valley.
2. Restore and maintain an area of old-growth ponderosa pine forest similar to those which historically occurred in the Swan Valley, providing habitat for plant, wildlife, and bird species dependent on these historical old-growth conditions.
3. Maintain sufficient cover and travel corridors for a variety of wildlife species including deer, elk, and bear.
4. Return fire to a more natural role in areas historically visited by periodic, low intensity fire. Reduce the risk of intense wildfires which could kill old growth trees, damage valuable forest resource, threaten property, and reduce aesthetic values.
5. Demonstrate how ecological restoration can be blended with economic opportunities to maintain local employment and income.
6. Demonstrate how cooperation and communication between diverse publics during project development can be used to increase trust and reduce polarization in the community.
7. Demonstrate how ecological restoration activities can be accomplished while preserving and enhancing social and aesthetic values.

8. Provide continuing opportunities for community involvement, monitoring, and educational efforts to forward the concepts of ecosystem management.

Montana DSL Cooperative Trail Building Efforts

The Montana DSL in cooperation with the Flathead Audubon Society worked together to bring about the construction of a "watchable wildlife area" consisting of a trail system with bridges, benches, and a picnic area.[7] The area is located in a wetland area on DSL land and provides excellent opportunities for viewing a unique diversity of bird species and other wildlife.[8] This type of conservation project emphasizes the interest of area conservationists to work with DSL officials to bring about land management that is in support of ecosystem management principles. The project area serves as an educational tool for learning about local ecosystems, as well as paving the way for the development of future proposed projects of a similar nature.[9]

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[7]Rod Ash, "Cooperation Produces Great Results," Pileated Post (monthly newsletter of the Flathead Audubon Society), May, 1991, 5.

[8]The area has become an officially designated "Watchable Wildlife Site," and can be reached by turning east off of highway 83 opposite the Swan River State Headquarters at the Goat Creek Station, and following the wildlife signs south onto the Squeezer Creek Road a few miles. The area contains two short loop trails with benches and a picnic area.

[9]A similar project has been proposed by a local conservation group (Friends of the Wild Swan), in the Point Pleasant area approximately five miles north of the Goat Creek Station. This project would involve a much more extensive

Conservation Easements

Conservation easements are being developed on private lands in the Swan Valley by individual landowners and conservation agencies.[10] Managing private lands in this fashion represents a commitment by the landowner toward the concept of ecosystem management.

Proposed Land Exchanges

Land exchanges have been proposed in the Swan Valley to allow for more efficient land management and to protect fish and wildlife habitat. The exchanges that have taken place have been minor and primarily involved agreements between Plum Creek Timber Company, the Forest Service, and the DSL, to consolidate areas of land management to allow for more efficient use of the land.

To protect bull trout and grizzly bear habitat, negotiations have been going on the past five years to secure a land exchange in the upper Elk Creek Drainage

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trail system on DSL lands in a unique wetland area, with the work being done by conservation group members.

[10]These easements have come in the form of land purchases from private individuals by the Nature Conservancy, which has set aside lands that will remain completely natural in the lower Porcupine Creek area to protect the rare Howelia plant. Also, throughout the Swan Valley it is becoming more popular for private landowners to put conservation easements on their lands to protect wildlife habitat. These easements usually provide for the owner to continue to own and use these lands, but agree not to further develop them, or allow development if they are sold. This type of conservation easement is particularly attractive to the private landowner because it offers tax incentives.

located a few miles southeast of the Condon Ranger Station.[11] This proposed exchange was initiated by private citizens concerned about protecting the critical habitat area.[12]

Negotiations fell through in 1994 for a proposed major land exchange between Plum Creek timber Company and the DSL.[13] The DSL had proposed to trade land with mature timber ready for harvest, for young developing stands of timber in the Woodward Creek area on the east side of the Swan River State Forest.[14]

Considerations for ecosystem management planning will continue to evolve as public and private land managers and concerned citizens realize the importance of working together to effectively protect the land. Cooperative

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[11]Alan Taylor, Professional Facilitator, Interviewed by author, March 17, 1995, Swan Valley, Mt.

[12]Through facilitated meetings developed by Alan Taylor since 1990, the "Swan Citizens ad hoc Committee" was formed. This group has proposed a land exchange between the Forest Service and Plum Creek Timber Company. The proposal is to trade less ecologically sensitive Forest Service land for Plum Creek land in the Elk Creek drainage that provides sensitive habitat for bull trout. The facilitated meetings have also been instrumental in lessening polarization in the community on timber management issues, and encouraging overall improvements in the economic livelihood and quality of life in the Swan Valley in light of timber harvest declines.

[13]Stan Billheimer, DSL Right of Way Specialist, Telephone interview by author, February 2, 1995.

[14]Stan Billheimer further stated that due to a heavy work load in the DSL right of way program, and Plum Creek timber Company's lack of interest in the exchange, it is not anticipated that any additional actions will be taken on the exchange in the next few years.

management, special conservation projects, conservation easements, and land exchanges will continue to be a vital part of sound ecosystem management planning.

CHAPTER 8

RECOMMENDATIONS AND CONCLUSIONS

Recommendations

The Swan Valley contains a diversity of plant and animal species sensitive to land development, and should be managed in a way that will promote biodiversity within and adjacent to the area. Land management activities that take place in the valley should be planned based on the impacts they will have on the valley itself as well as the adjacent lands. Although no all-encompassing authority exists to enforce ecosystem management planning concepts, all landowners should voluntarily agree to be stewards of the land.[1]

The Forest Service and DSL should continue to support the Swan Valley ecosystem by developing new and innovative cooperative management projects. These projects demonstrate

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[1]Each landowner must be dedicated to lend support to the concept of maintaining an intact of an ecosystem as possible. This includes providing sufficient habitat for native species such as the grizzly bear and bull trout to survive, and insuring that remaining habitat is not further degraded. Management goals and direction must be adjusted by all landowners to meet the needs of providing for a healthy ecosystem, while also allowing continued human uses. Public land managers must continue to carry out evolving land management principles that are allowed to be influenced by public interest and mandated by changing laws. The Lake and Missoula County planning departments should support state and federal land managers by adopting new site specific zoning regulations where needed, and encourage the development of conservation easements and land exchanges.

to the public a commitment by the agencies to preserve the lands and still allow for multiple uses. The Forest Service and Plum Creek Timber Company should gradually phase out the leasing of grazing lands, which would establish a commitment to preserving riparian habitat in areas that are only marginal for raising livestock. The streamside management zone (100 feet minimum) should be widened to account for riparian zones that are especially sensitive, and determined on a site specific basis. Back country horse use in high elevation riparian zones are impacting sites, and new regulations need to be developed to alleviate the situation. The Forest Service and DSL should continue to work closely with Plum Creek Timber to secure land exchanges. Plum Creek should be discouraged from developing logging units adjacent to wilderness areas.[2]

The Lake and Missoula County planning departments should actively encourage conservation easements and public open space land purchases, and also develop special zoning regulations on private lands where needed. A more detailed study of the classification of private lands could aid in determining new zoning regulations. Private lands adjacent to Swan and Lindberg Lakes and located within the grizzly

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[2]In recent years Plum Creek Timber has developed logging units near the trailheads to the Smith Creek trail leading into the Bob Marshall Wilderness, and the Hemlock Lake and Piper Creek Trails leading into the Mission Mountains Wilderness. The design and location of the logging units have degraded the aesthetics of entering the wilderness in these areas.

bear recovery zones are in need of more specific planning considerations. Accessible public lakeshore property is very limited in the area and the need exists to acquire as much as possible to meet recreational demands in the future, as well as for maintaining wildlife habitat. Riparian-wetland planning guidelines need to be developed to educate the public about the sensitive nature of these areas. The public should be encouraged to become more involved in helping to formulate zoning regulations and support should be sought for securing public open space purchases.

The Swan Valley has reached and gone beyond the point in the stage of development where it is critical that all landowners come together and take a much closer look at how they are managing their lands. Dwindling grizzly bear populations, loss of fisheries habitat, and an acceleration of private land development are threatening the very qualities of the valley that natives of the area have always enjoyed and many have moved here to experience. The striking scenic beauty, abundance of wildlife, rare and endangered flora and fauna, and quality of the rural lifestyle, are very worthy of being protected for the current and future generations to enjoy.

The people of the Swan Valley are concerned and dedicated to preserving a way of life and a physical environment that together constitute a unique quality living environment. A continuing education program should be put in place to

inform the public of evolving changes in ecosystem management concepts.

Conclusions

Historically, land use policy has been based on legal, economic, and political assumptions that provide no means for taking the fundamental ecological properties of land into account.[3] In the case of the Swan Valley this can be said to have been partly true, although there have been great strides in formulating policies to protect the ecological quality of the area. Land use management planning principles must continue to evolve in the framework of a larger environmental context that supports preserving the land base for biodiversity, as well as providing for basic human welfare and survival. As human demands on the natural environment of the Swan Valley continue to mount, land use policies will have to be adjusted accordingly to preserve the ecosystem for future generations to enjoy.

Through facilitated mediation there has been some progress in developing consensus among private citizens to encourage sound land management practices in the valley. Management philosophy generated by concerned citizen groups is having a noticeable impact on forest management activities carried out by the DSL, Forest Service, and Plum

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[3]Caldwell, Lynton Keith and Kristin Schrader-Frechette, Policy for Land: Law and Ethics, Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 1993, 183-208.

Creek Timber Company. The future environmental qualities of the area are vitally dependent on continued citizen input because there are no laws or regulations in place that offer complete protection.

The overall planning framework for the Swan Valley should be dominated by ecosystem management concepts and further site specific recommendations should be developed to protect sensitive areas. Swan Valley community members, as well as visitors to the area should realize that current and future zoning regulations and conservation easements are positive steps forward that will preserve the aesthetic natural qualities of the area, and enhance rather than take away personal rights and freedoms to use the lands.

EXHIBIT A
LOWER BUG CREEK ZONING DISTRICT AND REGULATIONS
June 1993

DISTRICT REGULATIONS

I. PURPOSE
The purpose of the zoning is to help guide growth and development in the area, to maintain the rural character of the area and allow for development that is consistent and compatible with the existing pattern of growth, to protect and enhance property values and amenities, and to protect and enhance the natural environment and water quality, and wildlife.

II. BOUNDARY
North boundary -
At the point where the common range line of Range 18 and Range 19 intersect at the highwater mark of Swan Lake.

East boundary -
Low water mark of Swan Lake.

West boundary -
The common range line of Range 18 and Range 19, P.M.M.

South boundary -
The common township line between Township 25 and 26.

The boundaries are shown on the attached Map as Exhibit A.

III. DISTRICT REGULATIONS

A. Intent
The intent of regulation within this unit is to maintain the open and rural character and allow for development that is consistent and compatible with the existing pattern of growth.

B. Permitted Uses
1. Single family residential
2. One guest house

C. Conditional Uses
The following uses may be allowed, after public review by the Lake County Planning and approval by the Board of Commissioners, provided such use is determined to be compatible with the purpose of these regulations.
1. Cluster development on tracts that do not border the lake
2. Home occupations
3. A second guest house
4. Common lake access

D. Prohibited Uses
1. Residential multi-family
2. Industrial
3. Recreational vehicle campgrounds
4. Mobile home
5. House trailer
6. Commercial
7. Gravel mining

E. Density
1. Lake front lots shall be a minimum of three acres in size and contain a minimum of 200 feet of frontage.
2. Lots which do not border the lake shall be a minimum of 10 acres in size.

F. Buildings
1. Buildings shall not be located on slopes which exceed 25 percent slope.

2. Accessory buildings shall meet all setback requirements, with the exception of boathouses (which are regulated under Lakeshore Protection Regulations).
3. Satellite dish antennae shall be setback as far as practical from the lake, and in no event shall the satellite dish be visible from the lake or lakeshore.
4. Building height shall not exceed 30 feet as measured from the average ground elevation or as measured from six (6) feet above the 100 year floodplain, whichever is greater.
5. Wood shake roofing shall be prohibited on construction of new buildings. Existing buildings with wood shake roofing may be repaired or remodeled utilizing wood shakes, provided the new shakes are coated with fire retardant material.
6. Setbacks
   The required setback for buildings shall be:
   a. 50 feet from lake
   b. 50 feet from any public road
   c. 50 feet from any property lines
7. Existing residential structures that do not meet the setback requirements may:
   a. Be rebuilt in their present location in the event of being destroyed by fire or other natural disaster.
   b. Be remodeled at their present location provided that the expansion of the ground coverage of the structure does not exceed 50 percent of the ground coverage of the existing structure, and provided that no portion of the expansion shall extend closer than the existing structure to the lake.
8. A reasonable variance shall be granted to allow construction of a residence on lots that exist at the time zoning is adopted which cannot meet the setbacks in the zoning, provided that no residence shall be closer than 20 feet to the lake and that adequate storm drainage is assured.

G. Common Lake Access
Common lake access may be allowed as a conditional use for secondary lots, provided that the access shall be a minimum of 200 feet of lakefront, except an additional 20 feet of lakefront shall be added for each dwelling unit in excess of one that utilized the access. No residential structures shall be placed on a common lake access.

H. Cluster Development
Cluster development which allows for lot sizes to be less than the required minimum may be allowed for lots that do not border the lake provided that the overall density of the subject parcel shall not exceed the required density per acre. However, such use may only be allowed as a conditional use.

Cluster development shall not be allowed on lakefront lots.

I. Land Division
All land divisions shall conform to the requirements of the zoning regulations.

J. Building Notification Permit
Prior to construction of any building within the zoning district, the landowner shall obtain a building notification permit from the Lake County Land Services Department to assure compliance with the Zoning Regulations.

K. Storm Drainage
All development shall demonstrate that any storm run-off that results from physical improvement of the property will be removed without causing damage or harm to the natural environment and water quality or to property adjacent to the subject property.

L. Existing Uses
Nothing in this regulation shall be construed to prevent or prohibit the use of any legally existing building, structure, lot, or premises in use at the time of adoption of such ordinance.

M. Applicability
If any private covenants, conditions, and restrictions (CC & R's) are more restrictive than the provisions of this zoning ordinance, the private CC & R's shall govern to the extent they are more restrictive.

N. Variance
1. The County Board of Adjustments shall have the authority to grant reasonable variances from the regulations of this Ordinance where the Board determines that due to unusual circumstances a strict enforcement of such regulations would result in undue hardship, that no reasonable alternatives exist which do meet the standards contained herein, and that granting of a variance will not result in establishment of a use otherwise prohibited by this Ordinance, or result in potential adverse effects on the public health, safety, welfare, or water quality.
2. No action of the Board of Adjustment shall be taken until public notice has been published in a newspaper of general circulation in the planning area and all adjacent landowners to the subject property have been contacted by mail at least 15 days prior to the hearing.

O. Violation
A violation of the zoning ordinance is a misdemeanor and shall be punishable by a fine not exceeding $500.00 or imprisonment in the county jail not exceeding 6 months or both. In case any building or structure is erected, constructed, reconstructed, altered, or converted, or any building or structure or land is used in violation of this Ordinance, the County Attorney shall institute any appropriate action or proceedings to prevent such unlawful erection, construction, reconstruction, alteration, conversion, or use to restrain, correct, or abate such violation, to prevent occupancy of said building, structure, or land, or to prevent any illegal act, conduct, business, or use in or about such premises.

P. Amendment
The zoning regulations may be amended in whole or in part by the affirmative vote of the Board of Commissioners in accordance with the following process:
1. Any proposed amendment must be initiated by the Planning Board or by a petition of 40% of the landholders in the zoning district. For purposes of the petition, each tract of record at the time the petition is submitted to the County shall be considered as one landholding. The landholder shall be considered as the party receiving the tax notice on the landholding.
2. Any proposed amendments shall be referred to the Lake County Planning Board for review.
3. The Planning Board shall hold a public hearing on the amendments and shall cause a legal notice to be published in a newspaper of general circulation in the planning area and shall notify all affected landowners at least 30 days prior to the hearing.
4. The Planning Board shall make a recommendation on the proposed amendment to the Commissioners.
5. The Commissioners may act on the proposed amendment upon receipt of the Planning Board recommendations, except that no amendment may become effective unless approved in writing by 60% of the landholders.

IV. DEFINITIONS

A. Commercial Use
Any use involving the sale, rental, or distribution of goods, services, or commodities, either retail or wholesale, or the provision of recreation facilities or activities for a fee.

B. Conditional Use
Following a public hearing, the governing body may authorize such use, upon a finding that it is compatible with surrounding land uses and will comply with all conditions and standards for location, design, and operation of such use.

C. Dwelling Unit
A structure or portion thereof which is used exclusively for human habitation.

D. Guest House
An accessory building designed for use for occupancy on a temporary basis by the landowner's guests. A guest house shall not be utilized for sale purposes.

E. Existing Use
Any land use or development, including any structure in existence prior to the date on which the county adopts zoning regulations to regulate land use.

F. Home Occupation
Any occupation carried on entirely within a residence by the occupants thereof, which activity is clearly incidental to the use of said residence as a dwelling and does not change the residential character thereof, is conducted in such a manner as to not give any outward appearance nor manifest any characteristic of a business in the ordinary meaning of the term, and does not infringe upon the rights of neighboring residents to enjoy a peaceful occupancy of their homes.

G. House Trailer
A trailer or a semitrailer which is designed, constructed, and equipped as a dwelling place, living abode, or sleeping place (either permanently or temporarily) and is equipped for use as a conveyance on streets and highways.

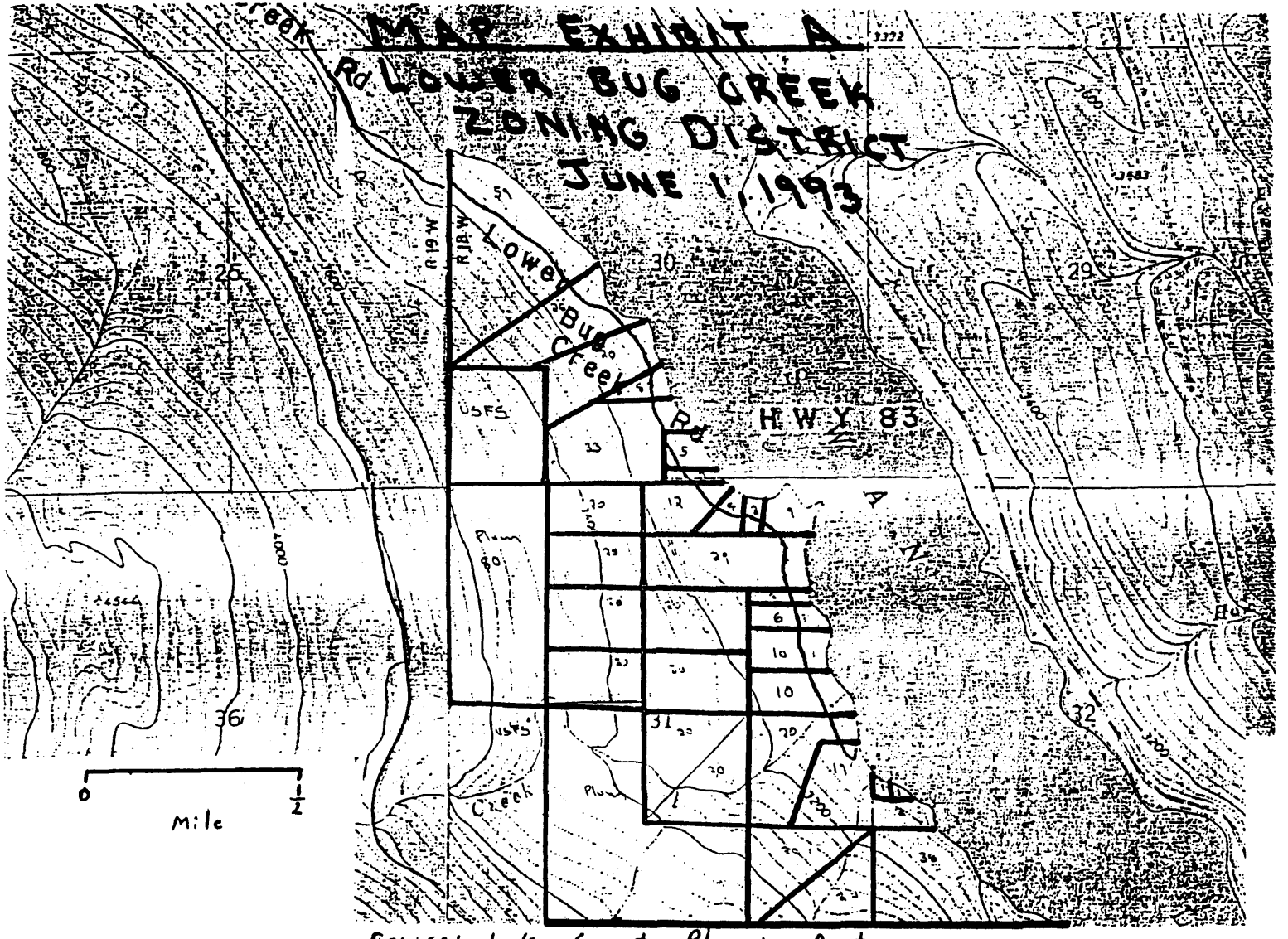
H. Industrial Use
Any manufacturing, production or assembly of goods or materials, including any on-site waste disposal area directly associated with an industrial use. This term does not include mineral extractions, except for gravel extractions. This term includes junkyards and similar facilities or uses. This term does not include manufacturing, production, or assembly that may be allowed as a home occupation under a conditional use.

I. Mobile Home
A trailer or semitrailer which is designed, constructed, and equipped as a dwelling place, living abode, or sleeping place, (either permanently or temporarily) and is equipped for movement on streets and highways, and exceeds 25 feet in length, exclusive of trailer hitch.

J. Residential Single Family
Any detached building containing one dwelling unit, containing facilities for cooking, living, and sleeping and designed for permanent occupancy by one family.

K. Residential Multi-Family
Any apartment, townhouse, condominium, or similar building, including the conversion of an existing single family dwelling, designed for occupancy in separate living quarters by more than one family.

L. Recreational Vehicle Campground
A place used for public camping where persons can rent space to park individual camping trailers, pick-up campers, motor homes, travel trailers, or automobiles for transient dwelling purposes.



Source: Lake County Planning Dept.

ZONING DISTRICT NO. 25A

APPLICABILITY.

The West 1/2 of Section 13 and all of Section 23 exempting therefrom Government Lots 2 and 3 in the West 1/2, Township 19 North, Range 17 West, P.M.M. and a 200 foot strip measured from the shoreline in Sections 27 and 35, Township 19 North, Range 17 West, P.M.M. on Lindbergh Lake. Drawings or maps of the above identified Sections with Lindbergh Lake depicted thereon are annexed hereto (see Appendix 1); the real property within this Zoning District No. 25A and covered hereby is all that real property depicted by, and which is within, the cross-hatched areas of the annexed drawings and maps.

SECTION I. Definitions

A. Residential: Single family non-mobile dwellings which are used as permanent, seasonal or periodic residences, as well as all accessory buildings and uses clearly subservient to the residential use of the real property upon which the single family non-mobile dwelling is situated. Specifically excluding from, and not within, this definition are buildings, structures, units, vehicles and uses such as, but not limited to, the following: mobile occupancy units; condominiums and the rooms and units thereof; apartment houses and complexes, and the apartments, units and rooms therein; town houses and the rooms and units therein; garden courts and the units and rooms therein; time-share buildings and complexes, and the units and rooms therein; buildings for multiple family dwelling and the rooms and units therein; and lodges and resorts, and the rooms, units and apartments therein.

B. Noncommercial Recreational: Recreational uses conducted neither for pay nor for profit, directly or indirectly. Specifically excluded from, and not within, this definition are buildings, structures, units, vehicles and uses such as, but not limited to, the following: mobile occupancy units; condominiums and the rooms and units thereof; apartment houses and complexes, and the apartments, units and rooms therein; town houses and the rooms and units therein; garden courts and the units and rooms therein; time-share buildings and complexes, and the units and rooms therein; buildings for multiple family dwelling and the rooms and units therein; and lodges and resorts, and the rooms, units and apartments therein.

C. Legal Nonconforming Use: A use of the land, a parcel of land, and/or buildings thereon which was an actual and lawful use, parcel and/or building at the time of the adoption of these Zoning District No. 25A regulations (which use, parcel or building would not conform to said regulations because of adoption or subsequent changes in district boundaries or regulations), shall likewise constitute a legal nonconforming use, parcel and/or building.

D. Residential Service Occupation: A "Home Occupation" as defined in and regulated by Resolution #81-132 (see Appendix 2).

E. Mobile Occupancy Units: A unit which was originally or subsequently designed, constructed, equipped or used as a dwelling place, living abode, or sleeping place (either permanently or temporarily) for movement on streets, highways, roads and byways; such units include, but are not limited to, self-propelled or pull-type: campers, truck campers, chassis-mounted campers, cab over campers, half telescopic cab over campers, truck canopy covers, truck canopy toppers, mobile homes constructed prior to 6/15/76, motor homes, trailers, travel trailers and vehicles or other type units originally designed or subsequently altered to provide permanent or temporary facilities for recreational, travel, camping or sleeping use.

SECTION II. Permitted Uses

A. One Single-family residential use.

B. Mobile Homes manufactured after June 15, 1976, which are permanently affixed (on a permanent foundation) to the land have exterior walls of wood or wood appearance painted or stained in earth tones, and comply in all other respects with the Development Standards of Planning and Zoning District No. 25A, as amended, of Missoula County.

C. Noncommercial recreational uses.

D. Residential Service Occupation Uses.

E. Structures accessory to permitted uses, including garages, sheds, boathouses, ramps and docks.

SECTION III. Prohibited Uses

A. Mobile homes manufactured prior to June 15, 1976, and also mobile homes manufactured on and after June 15, 1976, which do not comply with Section II, paragraph B.

B. Business, commercial and intended or attempted profit-making purposes or uses including, but not limited to, the following: bars, taverns, and other establishments at which beverages are dispensed or served as a consequence of the payment of money; restaurants and cafes; lodges and resorts; animal, tool, vehicle and equipment rentals, including horse rentals, ski rentals, snow vehicle rentals, skate rentals, boat rentals, automobile rentals and recreational vehicle rentals; water, snow and aircraft passenger rides and excursions for pay; rental storage spaces or storage units; boarding houses, condominiums, apartments, town houses, garden courts, and time-share units; hunting guide services; fishing guide services; marinas; garages and service stations; stores; markets; sales outlets; and sale, rental, lease or other dispensation of goods and merchandise for pay.

C. Offices for on-site consultation with, or providing personal on-site services to, clients, patients or customers who come on site as a consequence of express or implied invitation to members of the public at large, and the rendition of services for pay. Provided, however, Residential Service Occupations shall not be within the prohibited uses described by Section II, paragraph D.

D. Business, professional and religious gatherings such as retreats, camps, encampments, conclaves, schools, and training or teaching sessions of any kind for two or more persons; provided, however, this prohibition shall not apply with respect to personal business, professional and religious gatherings which occur on an occasional basis and primarily involve noncommercial recreational use. This section does not prohibit the accessory use of a residential dwelling for religious gatherings.

E. Sanitariums, rest homes, group retirement homes, hospitals and schools, except as permitted by State statute, MCA 76-2-401 through 76-2-412 (1985).

F. The construction of causeways, waterways, canals, ditches and all other means and methods by which ingress, egress or access by water is gained, or sought to be gained, to Lindbergh Lake.

G. Ramps and other means or methods of access to, ingress to, or egress from, Lindbergh Lake by persons other than owners of lots or other tracts of land abutting or adjoining Lindbergh Lake and which is within this Zoning District No. 25A, and by the guests of such owners.

H. Structures which do not meet the development standards in Section IV (A) or (B) as applicable.

I. All other uses not specifically listed as a permitted use.

SECTION IV - DEVELOPMENT STANDARDS

COMMENT: THE DEVELOPMENT STANDARDS WHICH FOLLOW ARE DIVIDED INTO TWO SUB-REGULATIONS. ONLY ONE OF THESE SECTIONS (A OR B) IS TO BE APPLIED TO A GIVEN PROPERTY (IN A CASE WHERE A PROPERTY IS AFFECTED BY TWO SUB-SECTIONS BASED ON THE LEGAL DESCRIPTION, THE REGULATIONS OF EACH SECTION SHALL APPLY TO THAT PORTION OF THE PROPERTY). TO DETERMINE WHICH SUB-SECTION GOVERNS A PARTICULAR PROPERTY, CONSULT THE LEGAL DESCRIPTIONS CONTAINED IN SUB-SECTION A AND B. IN GENERAL, "A" APPLIES TO THE HACMOORE SUBDIVISION AND A PARCEL OF LAND LOCATED BETWEEN LOTS 6 & 7 OF THE HACMOORE SUBDIVISION. "B" APPLIES TO ALL OTHER PRIVATE LANDS IN ZONING DISTRICT 25A.

A. The following development standards apply to the Hacmoore Subdivision and a tract of land described as commencing at the West 1/4 corner of Section 13, thence S.86°11'E., for 111.18 feet to the true point of beginning, thence N.47°57'E., for 45.53 feet thence S.45°57'E., for 141.64 feet to the center of Swan River thence, S.53°15'W., along the center of Swan River for 87.32 feet, thence N.28°38'W., for 136.92 feet back to the true point of beginning, all located in Section 13, T.19N., R.17W., P.M.M.

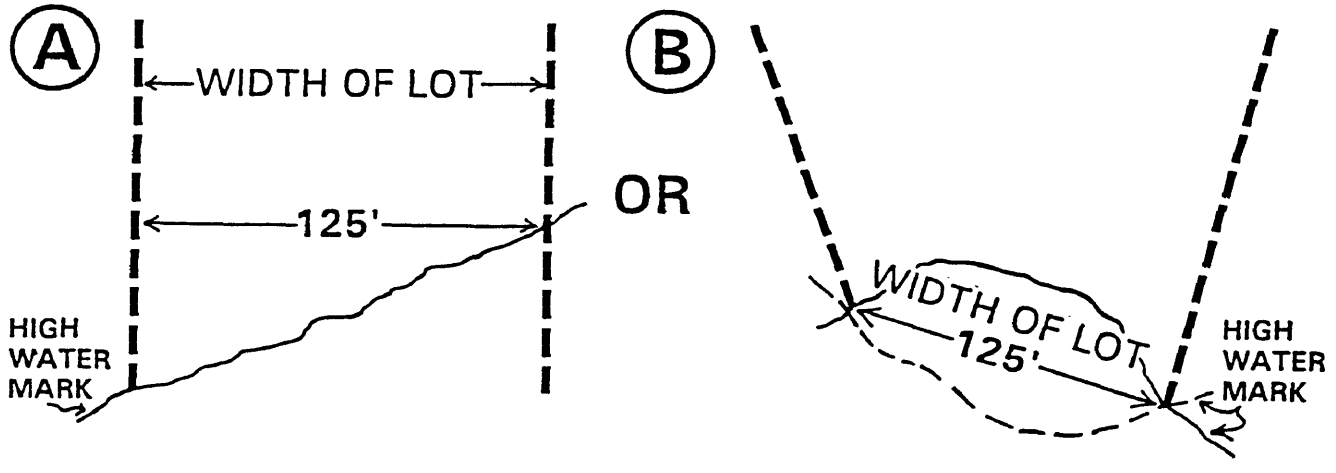
1. All existing lots in this zoning unit are considered legal conforming lots of record. No lot shall be further divided except Lot 9 of Hacmoore Subdivision which, if divided, shall create lots of not less than 25,000 square feet.

2. No other Section IV, Development Standards shall apply.

B. The following development standards apply to all lands within Zoning District 25A excluding those described in Paragraphs A, Section IV, Development Standards.

1. The minimum size of lots shall be 25,000 square feet, and the minimum size of any single family dwelling shall be not less than 400 square feet on the main floor or level.

2. The minimum lot width of each lot at the lakeshore shall be 125 feet measured as follows:



3. No building, shed, or any part thereof, shall be erected, constructed, located or maintained except in accordance with the following setbacks:"

a. One (1) single family residence per legal lot may be constructed, erected, located and maintained not closer than fifty (50) horizontal feet of the high water line of Lindbergh or Cygnet Lake. A deck may be constructed closer to the high water line of the lake than the fifty (50) foot set back established for the primary residence.

b. One (1) boathouse or other building or shed for purpose of storage of boats may be constructed, erected, located and maintained not closer than thirty-five (35) horizontal feet, of the high water line of Lindbergh or Cygnet Lake; provided, however, such boathouse, building or shed shall not exceed four hundred eighty (480) square feet of ground area, and the maximum side of said boathouse, building or shed fronting on Lindbergh or Cygnet Lake shall be twenty (20) feet.

c. One (1) pumphouse of not more than twenty-five (25) square feet of ground area and not more than six (6) feet in height may be erected, constructed, located and maintained within ten (10) horizontal feet of the high water line of Lindbergh or Cygnet Lake.

d. For each 25,000 square feet of lot size, only one accessory building exceeding 120 square feet may be constructed, erected, located and maintained not closer than seventy-five (75) horizontal feet of the high water line of Lindbergh and Cygnet Lake.

e. All structures shall be constructed erected, located and maintained not closer than seven and a half (7 1/2) feet from the side lot line.

f. No boat dock shall be constructed greater than 30 feet by 40 feet and shall be limited to 2 slips/mooring places per legal lot.

SECTION V. General Regulations and Variances

A. A legal nonconforming use or structure shall not be relocated, enlarged, increased, or extended to occupy a greater area of land, or a greater cubic footage of space, than was occupied at the time of the adoption of these Zoning District No. 25A regulations and any amendment thereto. This does not preclude existing single family residence, docks or other structures from being improved, enlarged remodeled or replaced as long as it conforms to all building codes and other ZD 25A zoning regulations.

B. A legal nonconforming parcel is a lot, parcel, or other subdivision of land which does not comply with the minimum lot size requirement contained in Section IV, Development Standards of this zoning district, but which was legally created prior to the adoption of these regulations. A legal nonconforming parcel must be in separate ownership and not of contiguous frontage with other lot(s) in the same ownership. Contiguous nonconforming lots in a single ownership shall be considered a single parcel and shall not be divided by ownership in such a way which leaves remaining any lot with an area smaller than the minimum lot size required by this zoning district. A legal nonconforming parcel may be enlarged through aggregation of lots or acquisition of additional adjacent property.

C. The area of land of any division, subdivision, lot or other platted parcel of real property in or upon which a legal nonconforming use is situated or is being carried out shall not be decreased, reduced or subdivided from the area of that division, subdivision, tract, lot or other such platted parcel at the time of the adoption of these Zoning District No. 25A regulations.

D. No legal nonconforming use shall be moved in whole or in part to any other division, subdivision, tract, lot or parcel of real property within this Zoning District No. 25A.

E. If any legal nonconforming use of land or structure, including accessory structures and docks, ceases for any reason for a period of twelve (12) consecutive months, then and thereafter any subsequent use of the land and structure shall conform to the standards specified by these Zoning District No. 25A regulations for conforming use. The removal of a legal nonconforming (pre-1976) mobile home from a legal nonconforming mobile home site shall constitute a cessation of a legal nonconforming use of land and structure and will be subject to the 12 month deadline as provided by this section.

F. Except for legal nonconforming uses as defined by Section I (C), any nonconforming structure which is destroyed by any means to an extent of more than 50% of its replacement cost at the time of destruction shall not be reconstructed or replaced except in conformity with the provisions of these regulations.

G. No roadside signs or roadside advertisements for any commercial, business, or professional purpose shall be permitted or allowed within this zoning district, except as permitted by Resolution #81-132 -- Home Occupations (Appendix 2).

H. No lot or any parcel of property may be subdivided or made smaller in its dimensions whereby the front footage on Lindbergh or Cygnet Lakes, is less than one hundred twenty-five (125) feet. The purpose of this restriction is to prevent any owner from further subdividing or dividing a lot or parcel of property in order to construct additional residences upon said lot or parcel of property; however, this restriction does not prevent the owners of two or more lots which are separated by an intervening lot from dividing that intervening lot in any manner which they desire for the purpose of protecting their respective privacy, so long as the total number of lots on the property does not increase as a result of said division. Once such intervening lot is divided, then the restrictive parcel shall merge with and become a part of the lot on each side

thereof and the new enlarged lots may not later be subdivided or reduced in size.

I. All garbage, pet foods, agricultural grain products, stock feed and waste must be stored indoors or in bear-proof containers. Fruit trees and apiaries shall be fenced or otherwise made unavailable to wildlife. Assistance in the design and development of fencing and other suitable protective measures can be obtained from the Montana Department of Fish, Wildlife and Parks or the US Fish and Wildlife Service. 98

J. No individual sewage disposal system or water system shall be constructed, permitted, maintained or located unless such system is located, constructed, equipped and maintained in accordance with the minimum requirements and regulations of the Missoula County Health Department, the Montana Department of Health & Environmental Sciences, and any other county, state or federal entity or agency having jurisdiction. In no event shall any privy, outhouse or other building or facility of similar nature and use be constructed, maintained or used.

K. Whenever a violation of these regulations occurs, or is alleged to have occurred, any person may file a written complaint, fully stating the causes and basis thereof, with the County Zoning Officer. The Zoning Officer shall record and investigate the complaint. If the Zoning Officer finds that any of the provisions of these regulations are being violated, s/he shall submit a written investigation report to the Office of the County Attorney for appropriate legal action.

L. The Board of Missoula County Commissioners may authorize variances which will not be contrary to the public interest where, owing to special conditions, literal enforcement would result in clearly established and unnecessary hardship; provided, however, no variance shall be made, given or granted, and no petition, application or other request for variance shall be made, given, granted or considered, without formal meeting of, and open hearing before, the Board of County Commissioners. Public notification of the variance request and of the time and place of the public hearing shall be accomplished by all of the following:

1. All adjacent property owners (as listed in the most recent County Tax Records) within 300 ft. of the parcel requesting the variance will be notified by the Zoning Officer by 1st Class mail. This mailing will occur no later than twenty-one (21) days prior to the public hearing.

2. Homeowners Association(s) within the zoning district will be notified by the Zoning Officer by 1st Class mail. This mailing will occur no later than twenty-one (21) days prior to the public hearing. It is the responsibility of the Homeowners Associations to keep the Zoning Officer informed of the current names and addresses of Association Officers.

3. The property requesting the variance will be posted in at least three (3) conspicuous places by the Zoning Officer, stating the date, time, and place of the public hearing. This posting will occur no later than fifteen (15) days prior to the public hearing.

4. A legal advertisement will be placed in a newspaper of common circulation and a local newspaper (if any exists) stating the nature of the request and the date, time and place of the public hearing. This legal advertisement will be published no later than fifteen (15) days prior to the public hearing.

A fee to cover the administrative costs of processing the variance request must be paid by the applicant at the time that the variance request is submitted to the Zoning Officer. This fee shall be for the amount determined by the County Commissioners for variance request in all citizen-initiated zoning districts.

SECTION VI. Severability Clause

In the event any court of competent jurisdiction holds any section, subsection, part, term, clause or provision contained in the standards of this Zoning District No. 25A to be invalid, illegal, unconstitutional or otherwise unenforceable, then, nevertheless, all other and remaining sections, subsections, parts, terms, clauses and provisions thereof and hereof shall continue and remain in force and effect.

SECTION VII. History

Zoning District No. 25 was originally formed on May 13, 1968, and included all lakeshore property and all of Sections 13, 14, 22, 23, 26, 27 and 35, Township 19 North, Range 17 West and Sections 2 and 3, Township 18 North, Range 17 West. On January 8, 1970, District Judge Emmet Glore, ruling in favor of the Northern Pacific Railway Company, removed the East 1/2 of Section 13 and all of Sections 27 and 35, Township 19 North, Range 17 West, and Section 3, Township 18 North, Range 17 West, from the control of the Planning and Zoning Commission. Thereupon, representatives of the Northern Pacific Railway Company suggested that a 200 foot strip measured from the shoreline in Sections 27 and 35, Township 19 North, Range 17 West, on Lindbergh Lake, be included in the contemplated Zoning District. Thereupon, a new petition was circulated, and, after hearing, Zoning District No. 25A was established.

In January, 1986, a request by James Busch for a use variance was denied by the Missoula County Commissioners.

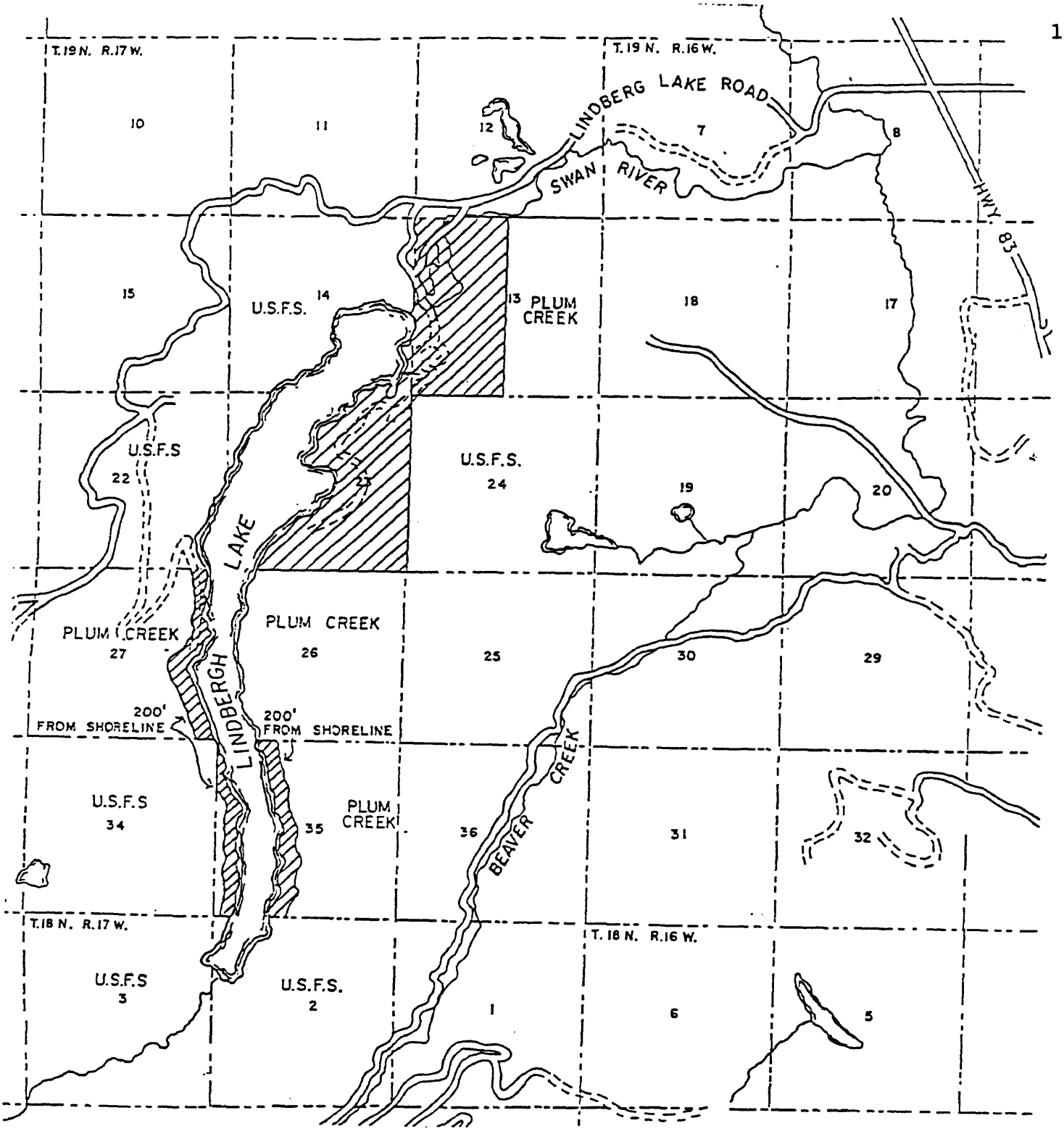
On January 14, 1987, a public hearing was held before the Missoula County Planning and Zoning Commission regarding proposed amendments to the Z.D. 25-A regulations. On January 28, 1987, the Missoula County Commissioners voted to amend the Z.D. 25A regulations.

On November 18, 1992, the Missoula County Commissioners, based on the recommendation of the Planning and Zoning Commission, voted to amend the district by removing a 200 foot wide strip of land back from the shoreline located in Section 3, T.18N, R.17W., P.M.M., that was part of this Zoning District 25A due to a change of land ownership. This entire section is now owned by the U.S.A. (Forest Service).

On November 18, 1992, the Missoula County Commissioners, based on the recommendation of the Planning and Zoning Commission, voted to remove property described as Government Lots 2 and 3, in the West 1/2 of Section 23, T.19N., R.17W., P.M.M., from Zoning District 25A, following a land trade placing this property under ownership of the U.S.A.

On October 7 and November 18, 1992, public hearings were held before the Missoula County Planning and Zoning Commission regarding proposed amendments to the Z.D. 25A regulations. On the recommendation of the Planning and Zoning Commission, the Board of County Commissioners voted to amend the regulations clarifying language and establishing development standards.

LINDBERGH LAKE
ZONING DISTRICT 25A



ZONING DISTRICT 25A

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